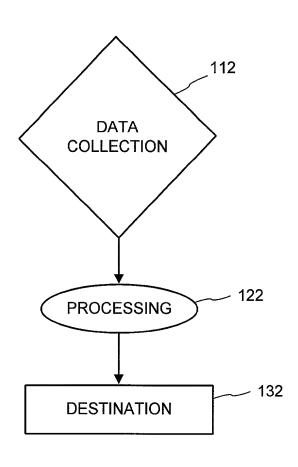
Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 1 of 103

FIG. 1





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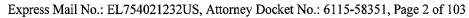
The state of the s

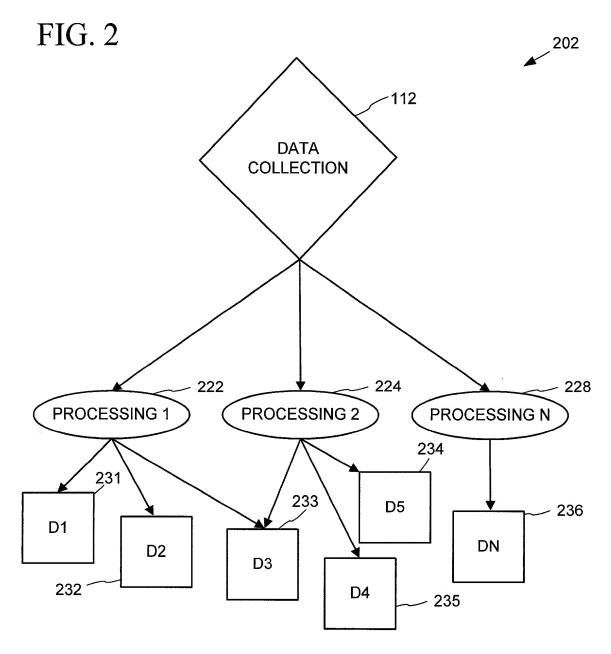
Fig.

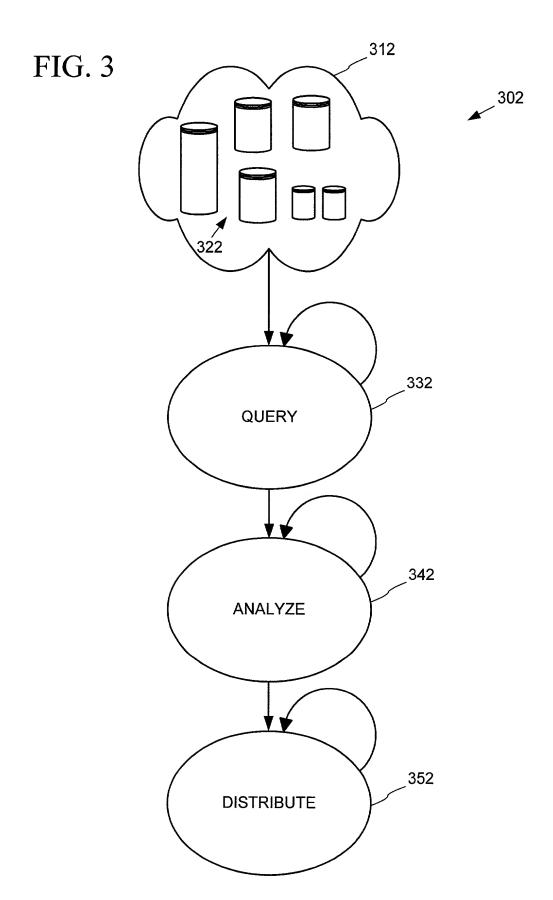
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S

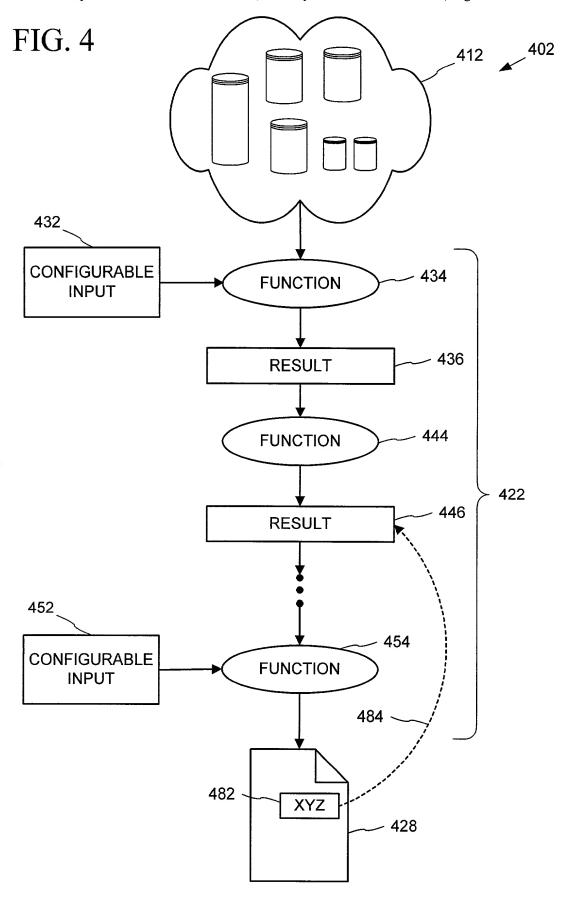
THE SECOND STATE S



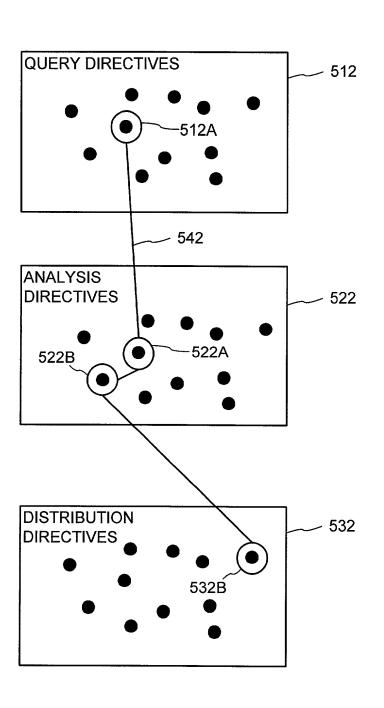


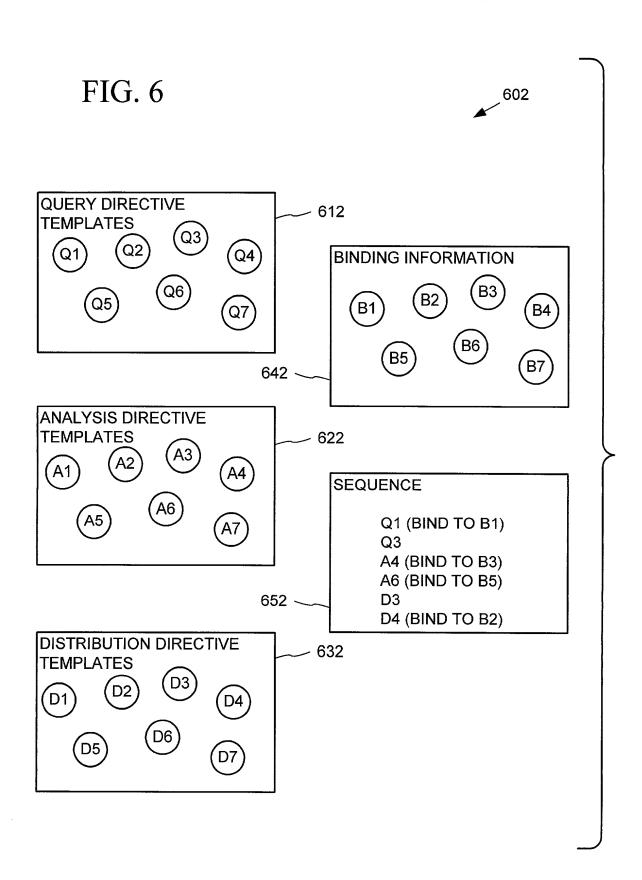


Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 4 of 103

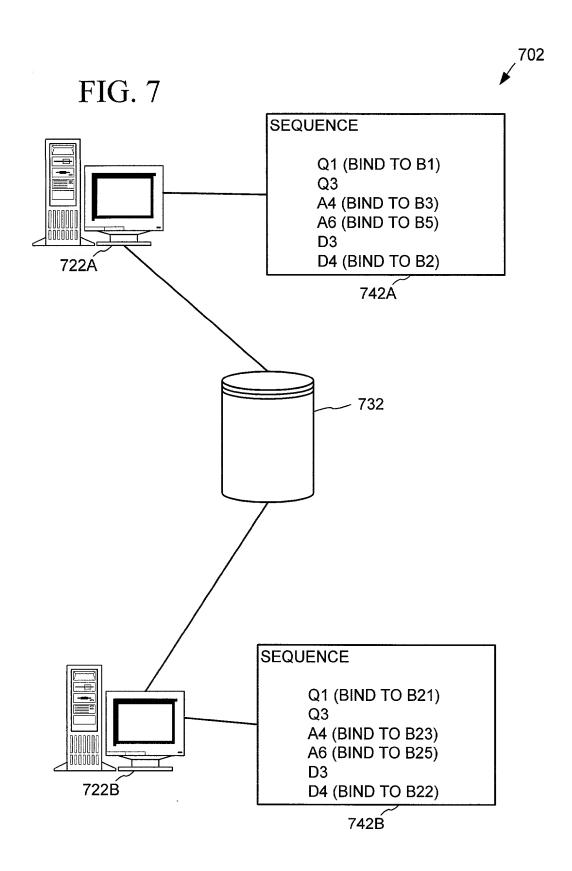


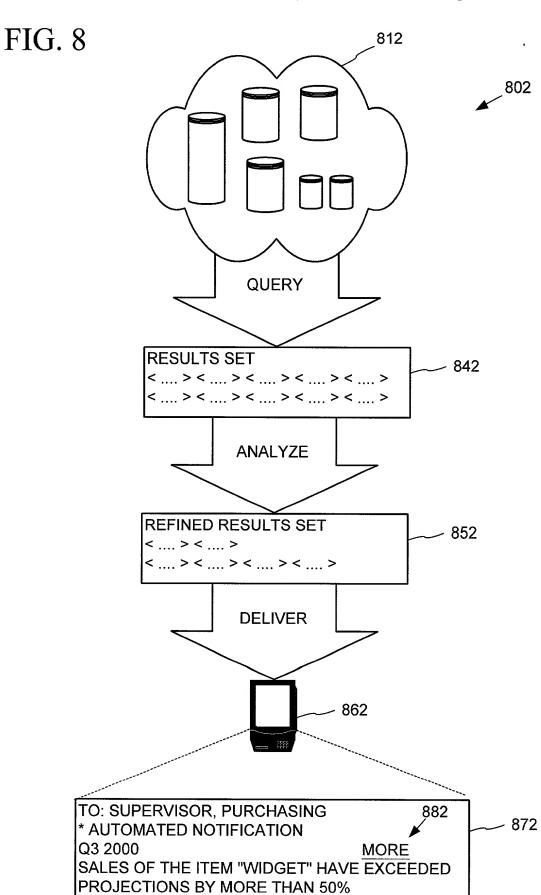






Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 7 of 103

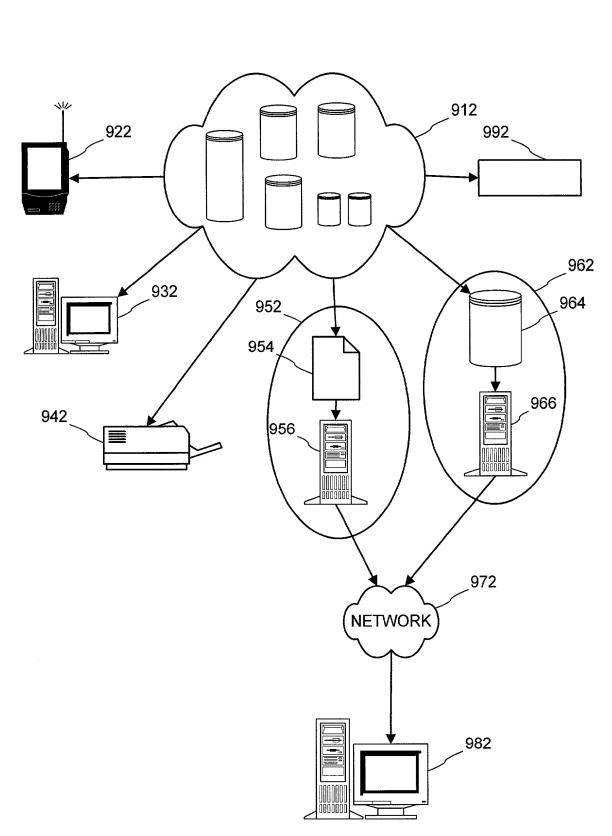




Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING,

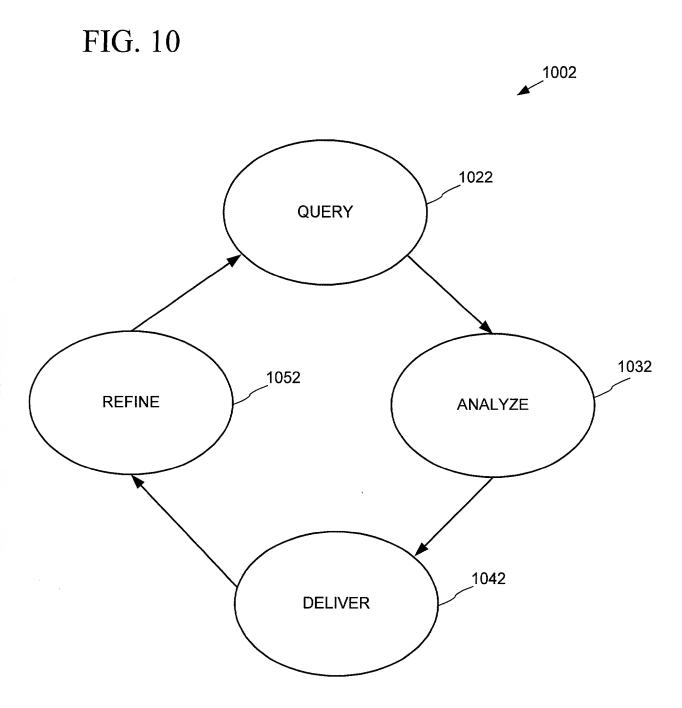
Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 9 of 103





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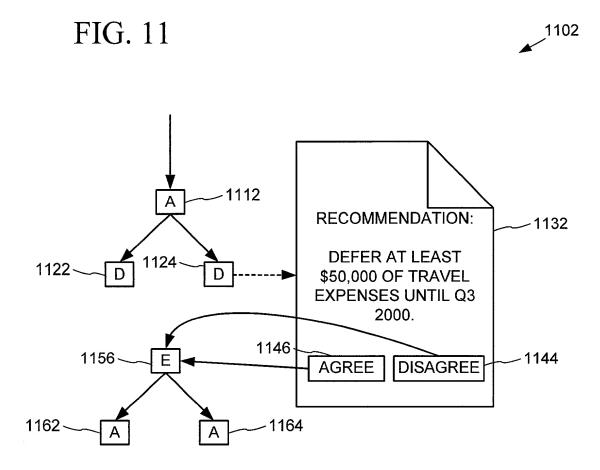
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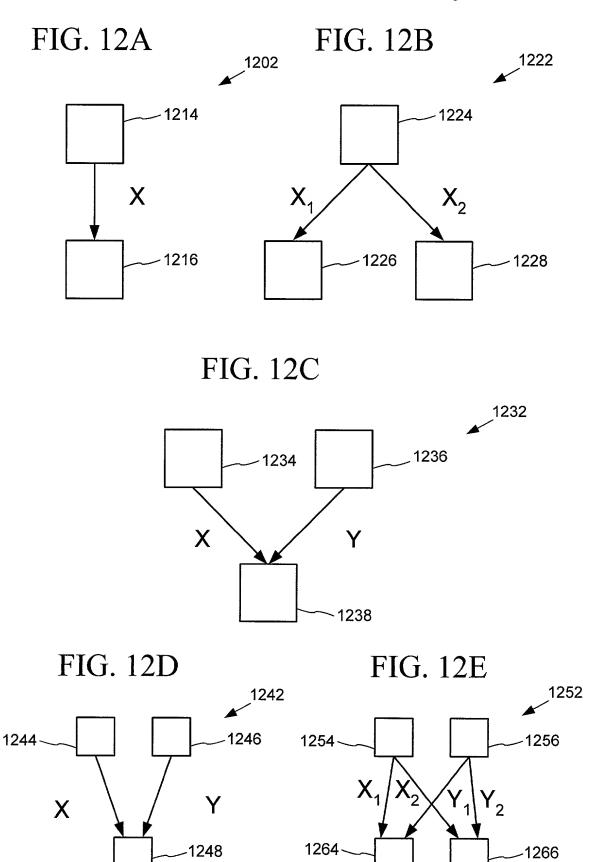
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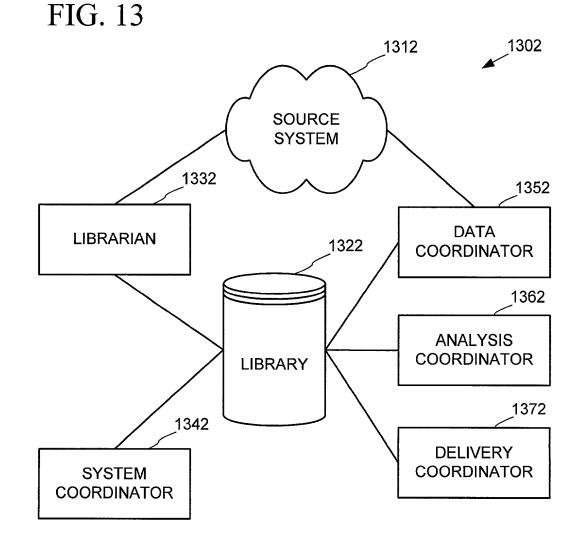
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QUERY COLUMNS

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QUERIES

SOURCE TYPES

1416C

**QUERY FILTERS** 

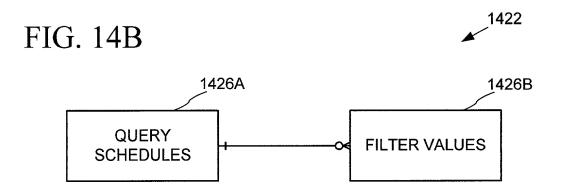
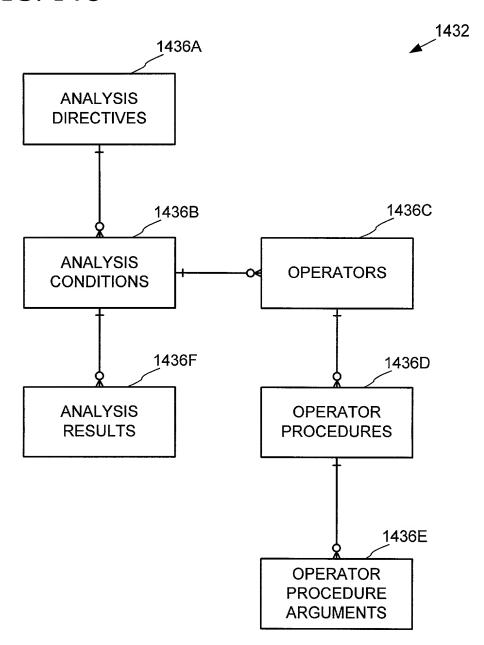
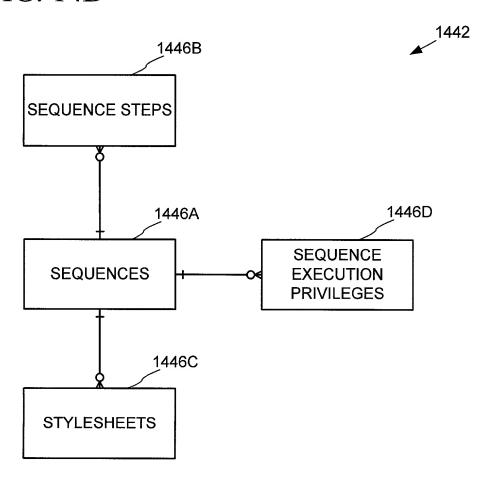


FIG. 14C



Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 16 of 103

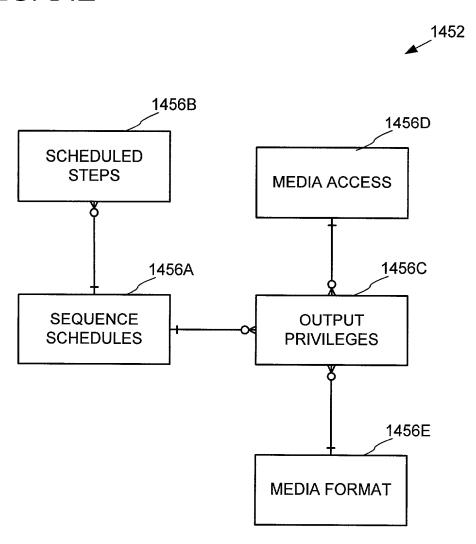
FIG. 14D



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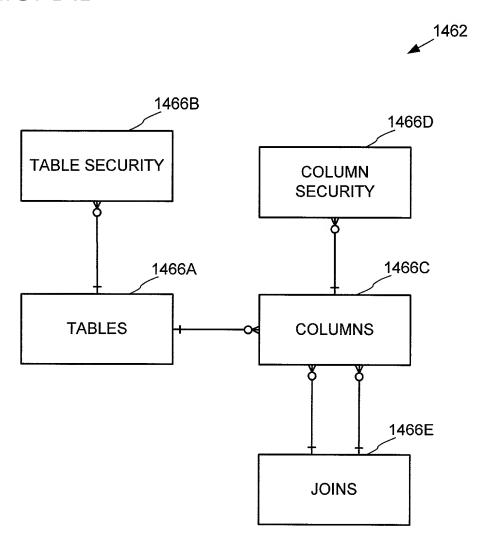
Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 17 of 103

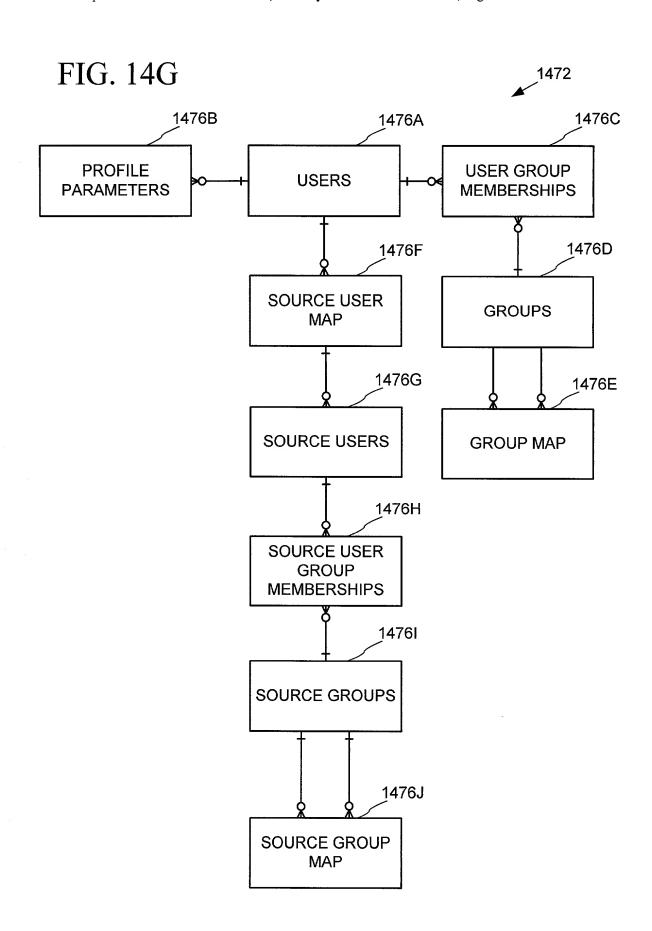
FIG. 14E



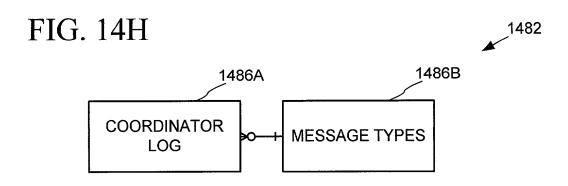
Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 18 of 103

FIG. 14F





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## FIG. 15A

		g	QUERY DIRECTIVES	IVES		
NAME	111	DESC	SOURCE	USER	STATUS	OPTION
NEW		NEW	SYSTEM A ▼ NB	NB	AVAILABLE 🔻	ADD
CC1		COST CENTER	SYSTEM A	H	AVAILABLE	ДОМ
AR-PTD	P	PERIOD TO DATE SYSTEM B	SYSTEM B	rs	AVAILABLE	[MOD]
REV		PTD REVENUE	SYSTEM B	FS	AVAILABLE	MOD]
FIN		FINANCIALS	SYSTEM B	rs	AVAILABLE	MOD]
SALES	S	SALES BY DEPT SYSTEM B	SYSTEM B	rs	AVAILABLE	[MOD

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 21 of 103

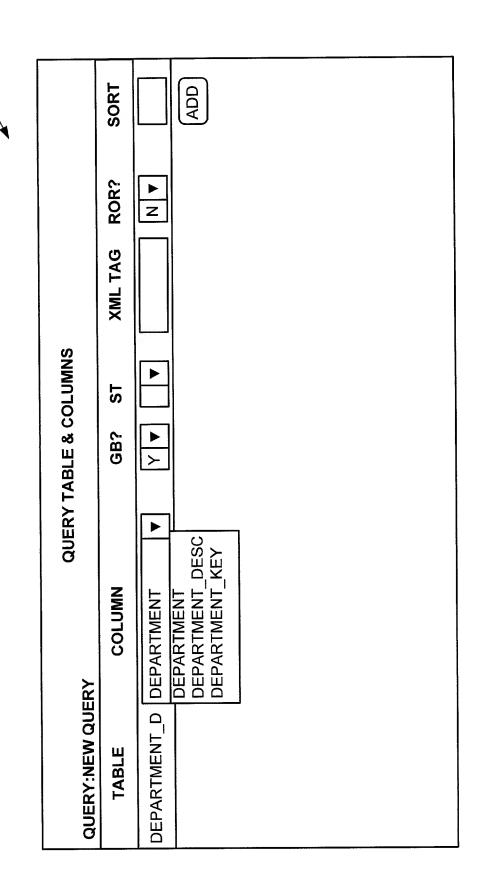
FIG. 15B

COLUMN GB? ST  SELECT COLUMN	XML TAG ROR? SORT
TS C	ROR?
ND ▲	
ST_D	
ST_D	
ST_D ST_D	
ASSET_INVENTORY_F	
<b>&gt;</b>	

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR PORTRING, MAKING, SASTEMS AND METHODS FOR PROPERTING INFORMATION FOR PROPERT

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Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 23 of 103

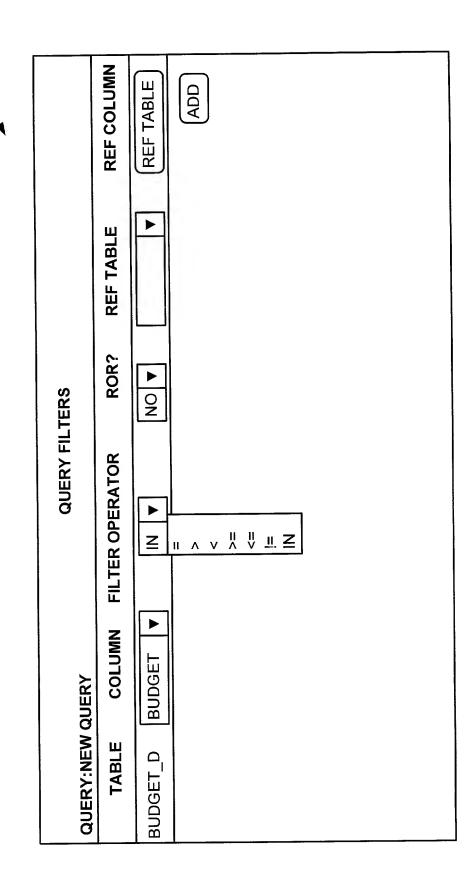
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	QUERY TABLE & COLUMNS	BLE & C	OFOMN	S		
QUERY:NEW QUERY						
TABLE	COLUMN	GB?	ST	XML TAG	ROR?	SORT
DEPARTMENT_D	DEPARTMENT_DESC	<b>&gt;</b>		DEPARTMENT	z	-
INC_STMT_LINES_D	LINE_NAME	<b>+</b>		LINE_NAME	z	
INCOME_STMT_A	PTD_ACTUAL	z	SUM	PTD_ACTUAL	z	
INCOME_STMT_A	PTD_BUDGET	Z	SUM	PTD_BUDGET	z	
INCOME_STMT_A	PTD_VARIANCE	Z	SUM	PTD_VARIANCE N	Z	
	(◀)	ADD COLUMN DONE	LUMN			

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	ļ	QUERY FILTERS	TERS		
QUERY:NEW QUERY	ERY				
TABLE	COLUMN	FILTER OPERATOR	ROR?	REF TABLE	REF COLUMN
BUDGET_D	BUDGET	Z	z		
PERIOD_D	PERIOD	11	Z		
DEPARTMENT_D DEPARTMENT	DEPARTME	ENT =	Z	DEPARTMENT_D	DEPARTMENT_D DEPARTMENT_KEY
		ADD FILTER FINISH			

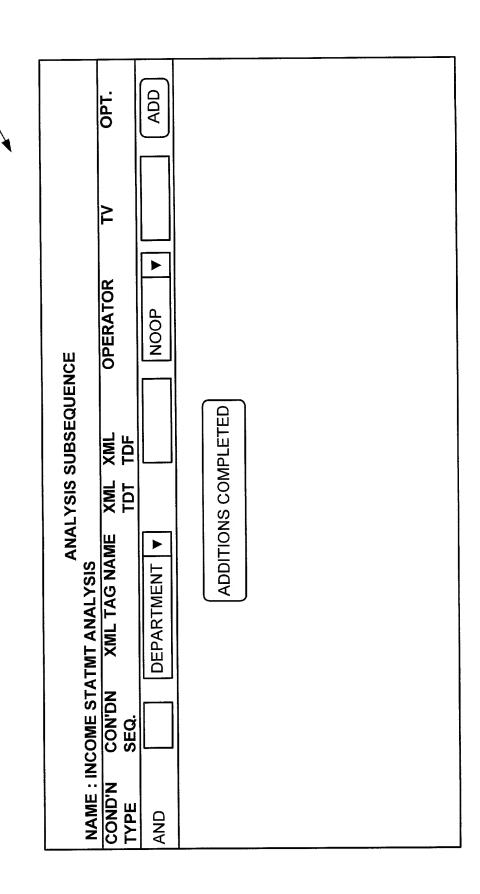
Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 27 of 103 GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon

## FIG. 15H

ANALYSIS SUBS NAME USE INCOME STMT ANALYSIS NB	USER NAME	SHOW	LAST RUN DATE OPTIONS AD	OPTIONS
	m	SHOW		ADD

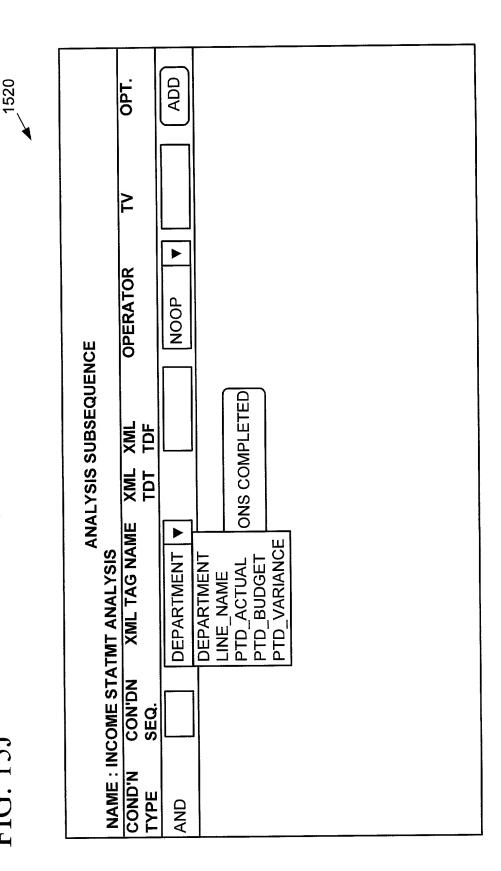
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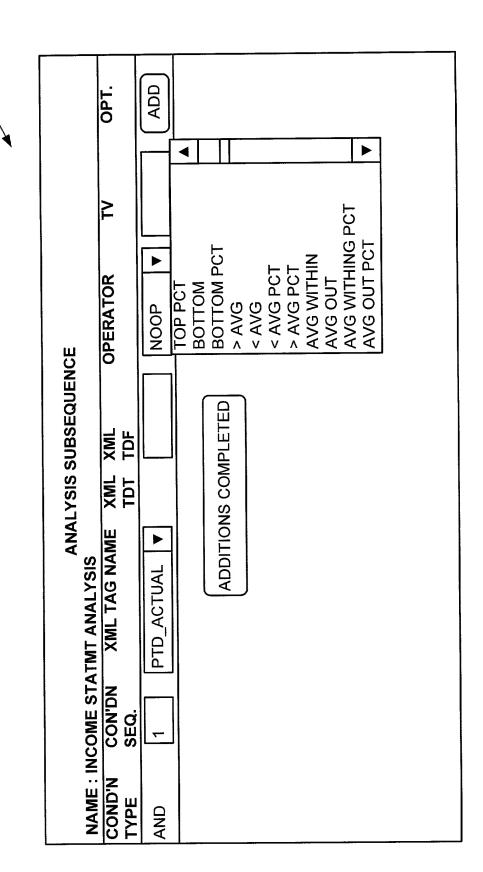
Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR EXPERSATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 29 of 103

IG. 15J



Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, PAPPERS Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 30 of 103

FIG. 15K



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FIG. 15L

NAME: IN	ICOME ST	AN. NAME : INCOME STATMT ANALYSIS	ALYSIS 5	ANALYSIS SUBSEQUENCE	CE				
COND'N TYPE	CON'DN SEQ	XML TAG NAME	XML XML TDT TDF	XML TDF	OPERATOR		ΛL	OPT	
AND		DEPARTMENT ▼			NOOP	<b>•</b>		ADD	
AND	-	PTD_ACTUAL  ▼			<b>\$</b>		0	] GOW	NET)
AND	2	PTD_VARIANCE ▼			^	<b>•</b>	300000	] GOW	ZEL)
AND	3	PTD_VARIANCE ▼			TOP PCT	<b>•</b>	10	MOD [I	IEI IEI
		ADDITIC	ADDITIONS COMPLETED	PLETED					

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 32 of 103

1524

## FIG. 15M

ADD,	ADD, EDIT OR DELETE SEQUENCES	SEQUENCES				
<u>□</u>	NAME	DESCRIPTION	STATUS USER OPT	ر ر	SER	OPT
	INCOME STAT'T ANALYSIS	INCOME STAT'T ANALYSIS	AVAIL	<b>•</b>	NB	ADD
24	24 FINANCIAL STATEMENT	FINANCIAL STATEMENT	AVAIL	▶	rs	MOD
25	FSV	FSV	AVAIL	<b>•</b>	NB	MOD
26	COST CENTER SCORING 1	COST CENTER SCORING	DISAB	▶	LS	MOD
27	COST CENTER SCORING 2	CSS PTD-VARIANCE	AVAIL	▶	rs	MOD

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FIG. 15N

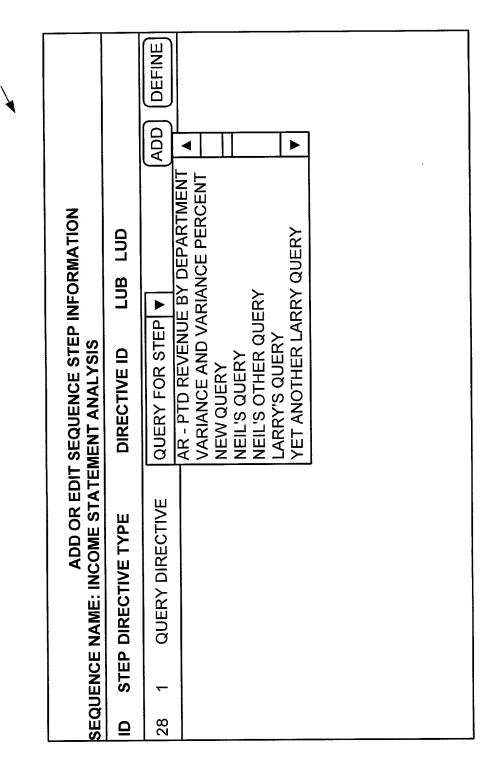
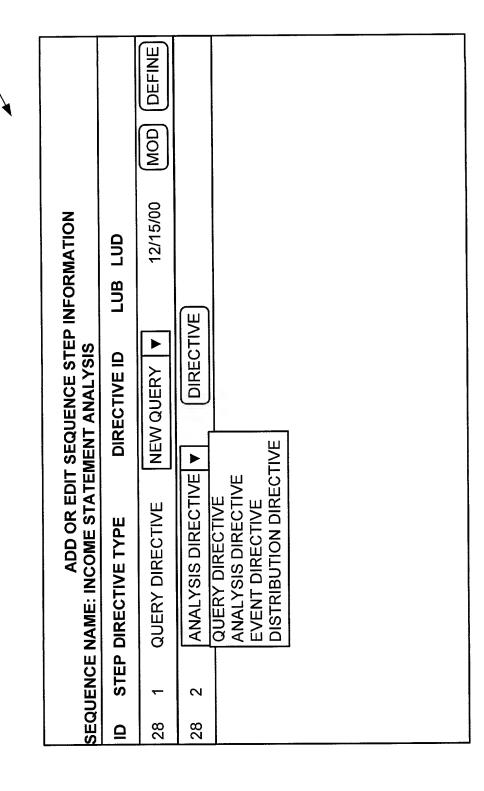


FIG. 150

1532

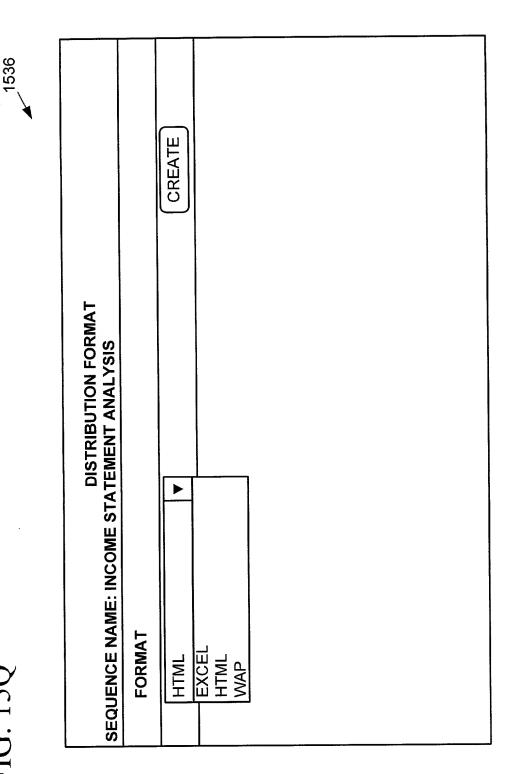


Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 35 of 103

FIG. 15P

SE	QUENCE NAME: II	ADD OR EDIT SEQUENCE STEP INFORMATION SEQUENCE NAME: INCOME STATEMENT ANALYSIS	STEP INFOR	MATION	
<u>0</u>	ST DIRECTIVE TYPE	TYPE DIRECTIVE ID	LUB LUD	TND	
28	28 1 QUERY DIR	NEW QUERY	•	12/15/00	MOD DEFINE
28	28 2 ANALYSIS DIR	R INCOME STMT ANALYSIS ▼	NB	12/15/00	MOD DEFINE
28	28 3 DISTRIBUTIO	TION DIRECTIVE • DIR	DIRECTIVE		

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Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 37 of 103 GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon

FIG. 15R

SCHEDULE SEQUENCES	SEQUENCE NAME USER SCHEDULE DESC FREQ PRIORITY	INCOME STAT'T ANALYSIS  ▼ LS ISA FOR DEC '00 IMMEDIATE  ▼ ADD	SELECT SEQUENCE TO VIEW	COST CENTER SCORING - PTD VARIANCE •	
HOME INSTRUCTIONS	SEQUENCES SE	ADMIN	SYS SETTINGS S USERS	LOGS SETTINGS	MEDIA SETT'S

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).	CHEDIII	SCHEDIII E SEQUENCES		
	;			
SEQUENCE NAME	USER	USER SCHEDULE DESC	FREQ	PRIORITY
INCOME STAT'T ANALYSIS ▼	ST	ISA FOR DEC '00	IMMEDIATE  ▼	ADD
SELECT SEQUENCE TO VIEW			IMMEDIATE	
COST CENTER SCORING - PTD VARIANCE	VARIAN	4CE ▼	EXTRACT DAILY	
			WEEKLY MONTHLY	

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FIG. 15T

ADD SEQUENCE TO SCHEDULE ELECT THE DAYS YOU WISH THE SEQUENCE TO RUN	
JSUNDAY ☐ MONDAY ☐ TUESDAY ☐ WED ☐ THURS ☐ FRIDAY ☐ SATURDAY	
TART AT	
8 ▼ : 30 ▼ PM ▼	
EXT START DATE	
2000 ▼ DEC ▼ 15 ▼	
SUBMIT	

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FIG. 15U

SCHEDULE ENTRY SELECT SOURCE INFORMATION SEQUENCE: INCOME STATEMENT ANALYSIS	NEW QUERY	E NAME DV ▼ DV PART  CONTINUE
SELECT SOURCE INF	STEP: 1 QUERY: NEW QUERY	SOURCE NAME

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FIG. 15V

SELECT SOURCE INFORMATION	SCHEDULE ENTRY FORMATION
SEQUENCE: INCOME	E STATEMENT ANALYSIS
STEP: 1	
QUERY: NEW QUERY	<b>&gt;</b> -
SOURCE NAME	PART
SOURCE SET	OAS 🔻
	CONTINUE

Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR 67204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR 67204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR 67204, (503) 226-7391, Inventors: Scheurich et al., System (503) 226-7391, Inventors: Scheurich et al.,

# FIG. 15W

FILTER VALUES FOR QUERY SEQUENCE: INCOME STATEMENT ANALYSIS SCHEDULE: INCOME STATEMENT ANALYSIS SEQUENCE STEP: 1 NEW QUERY	FILTER VALUES NCOME STATEMENT ANALYSIS NCOME STATEMENT ANALYSIS TEP: 1	LUES YSIS YSIS F	FILTER VALUES FOR QUERY IENT ANALYSIS IENT ANALYSIS FOR DECEMBER 2000	
TABLE NAME	COL NAME	OP	FILTER VALUE	
BUDGET_D	BUDGET	Z	ACTUAL ▼	MOD
			CORPORATE 1997 ▼	MOD DEL
			<b> </b>	ADD
PERIOD_D	PERIOD	II	DEC-2000 ▼	МОД
IF YOU HAVE MAI MOD, O	DE CHANGES AND OR DEL BUTTONS, "	AND NOT SONS, THEY N	IF YOU HAVE MADE CHANGES AND NOT SUBMITTED THEM USING THE ADD, MOD, OR DEL BUTTONS, THEY WILL NOT BE COMMITTED  [FINISHED]	ADD,

FIG. 15X

SEQUENCE OUTPUT PRIVILEGES IMENT ANALYSIS FOR DECEMBER 2000	CS RESULT TAG RESULT VALUE OPT	ADD ADD	IF YOU HAVE MADE CHANGES AND NOT SUBMITTED THEM USING THE ADD, MOD, OR DEL BUTTONS, THEY WILL NOT BE COMMITTED  FINISHED
SEQUENCE OUTPUT PRIVILEGES SEQSCHED: 1815 INCOME STATEMENT ANALYSIS FOR DECEMBER 2000	USER ACCESS FORMAT ST	NEILB ▼ EMAIL_DATA ▼ HTML ▼	NEILB LARRYS ERICH MARC SALES MARKET HQ MOD, OR DEL BUTTON

FIG. 15Y

ICE OUTPUT PRIVILEGES NALYSIS FOR DECEMBER 2000	ST CS RESULT TAG RESULT VALUE OPT	ADD	IF YOU HAVE MADE CHANGES AND NOT SUBMITTED THEM USING THE ADD, MOD, OR DEL BUTTONS, THEY WILL NOT BE COMMITTED FINISHED
SEQUENCE OUTPUT PRIVILEGES SEQSCHED: 1815 INCOME STATEMENT ANALYSIS FOR DECEMBER 2000		HTML	ADE CHANGES AND NOT SUBMITTED OR DEL BUTTONS, THEY WILL NOT BI FINISHED
SEQSCHED: 1815 INCOME STAT	USER ACCESS F	NEILB   EMAIL_DATA	IF YOU HAVE M. MOD, (

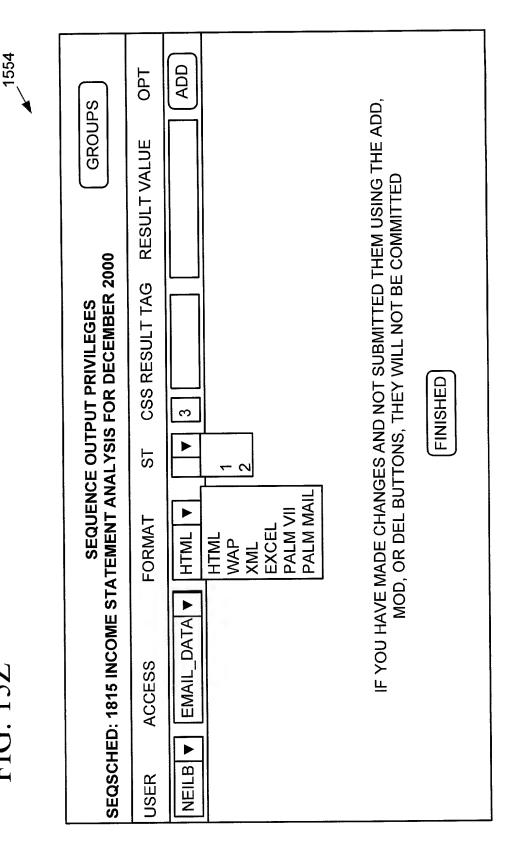
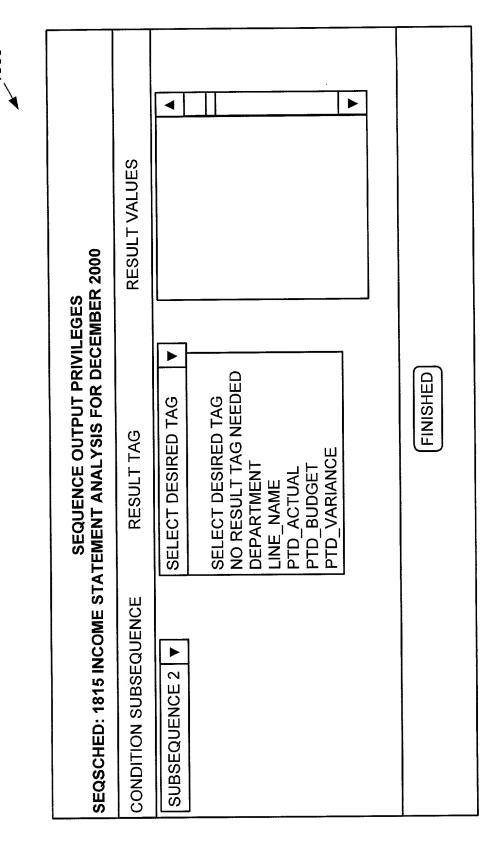


FIG. 15AA



# FIG. 15BB

SEQSCHED: 1815 INCOME STATEMENT ANALYSIS FOR DECEMBER 2000	SELECT	MANUFACTURING PLANT 1 MANUFACTURING PLANT 1 MANUFACTURING PLANT 2 MANUFACTURING PLANT 2 MANUFACTURING PLANT 2 MARKETING  MARKETING  MARKETING  MARKETING  MARKETING  MARKETING  MARKETING  MANUFACTURING PLANT  MANUFACTUR
SEQSCHED: 1815		<pre></pre>

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FIG. 15CC

SEQSCHED: 1815 INCOME ST	SEQUENCE OUTPUT PRIVILEGES E STATEMENT ANALYSIS FOR DECEMBER 2000	RIVILEGES DECEMBER 2000
CONDITION SUBSEQUENCE	RESULT TAG	RESULT VALUES
SUBSEQUENCE 2	DEPARTMENT	<pre> <?XML VERSION = "1.0"?> <split values=""> <val>COMMERCIAL SALES</val> <val? communications="" resources<="" val=""> <val>EAST REGION SALES</val> <val>FINANCES</val> <val>GOVERNMENT SALES</val> <val>NON-PRODUCT SALES</val> <val>PRODUCT SALES</val> <val>PRODUCT SALES</val> </val?></split></pre> <val>PRODUCT SALES  <val>PRODUCT SALES  <val>PRODUCT SALES</val></val></val>
	FINISHED	<u>a</u>

# FIG. 15DD

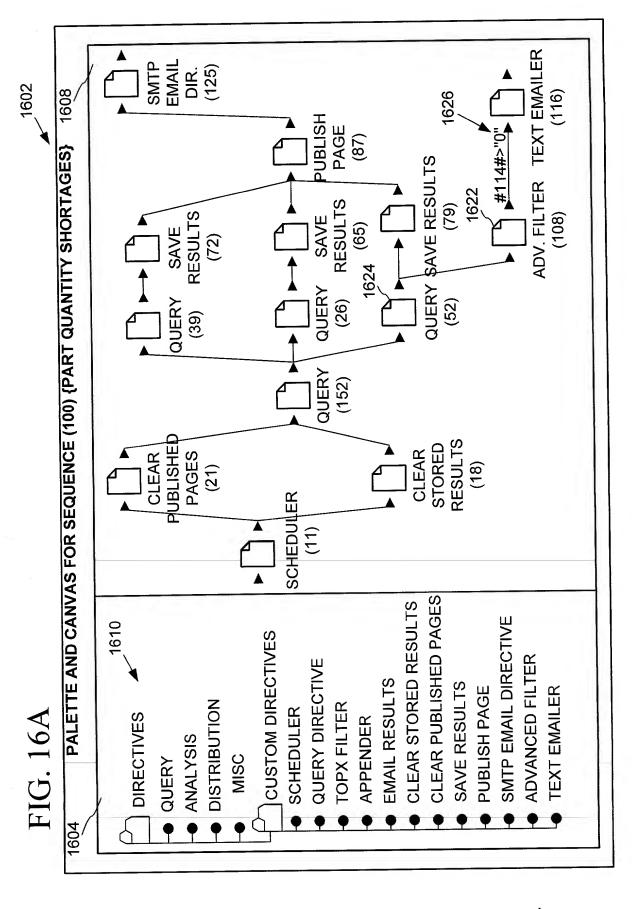
SEQSCHED	: 1815 INCOME ST	SEQUENC ATEMENT AN	E OUTF	SEQSCHED: 1815 INCOME STATEMENT ANALYSIS FOR DECEMBER 2000	2000	GROUPS	S
USER	ACCESS	FORMAT	ST	CSS RESULT TAG	RESULT VALUE	VALUE	OPT
NEILB ▼	EMAIL_DATA ▼	HTML	<b>•</b>	3			ADD
NEILB	EMAIL_DATA ▼	HTML •	2 •	2 DEPARTME	XML VERSION =</td <td>RSION =</td> <td>MOD</td>	RSION =	MOD
	IF YOU HAVE MOI	MADE CHANC D, OR DEL BU	SES ANI TTONS,	IF YOU HAVE MADE CHANGES AND NOT SUBMITTED THEM USING THE ADD, MOD, OR DEL BUTTONS, THEY WILL NOT BE COMMITTED	THEM USINE E COMMITT	NG THE ADI 'ED	Ď,
			NH NH	FINISHED			

FIG. 15EE

		)			
一浜	SEQUENCE NAME USER SCHEDULE DESC	E DESC	FREQ	110	PRIORITY
	TEST SEQUENCE FOR PRIV ▼ LS		IMMEDIATE	F	ADD
SE	SELECT SEQUENCE TO VIEW				
1	TEST SEQUENCE FOR PRIVS AND STEPS ▼		VIEW		
	TEST SEQUENCE FOR PRIVS AND STEPS COST CENTER SCORING - PTD COST CENTER SCORING - PTD VARIANCE TEST VOAGE				
	AR - PTD REVUENUE BY DEPARTMENT SOCCER SCORES				
	BUDGET VARIANCE SCORING INCOME STATEMENT ANALYSIS				

15TT

SCHEDULE SEQUENCES	ENCES		
SEQUENCE NAME USER SCHEDULE DESC	ULE DESC	FREQ	PRIORITY
TEST SEQUENCE FOR PRIV ▼ LS	IMIN	IMMEDIATE ▼	ADD
SELECT SEQUENCE TO VIEW			
TEST SEQUENCE FOR PRIVS AND STEPS ▼	\ <u>\</u>	VIEW	
SEQUENCE: INCOME STATEMENT ANALYSIS USER: NB	k: NB		
ID DESCRIPTION STATUS	FREQ	START	OPTIONS
1815 INCOME STAT'T ANALYSIS DEC 2001 SCHED	DAILY	23-APR-2001 08:30 PM	-2001 MOD M DEL PRIVILEGES
		J  	



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FIG. 16B

PERT NAM ON: STA: STA:	CAPTION: DATABASE USER NAME   NAME:   USER_NAME   RRIC1234  CAPTION: SEQUENCE   NAME:   USER_PWD   SEQUENCE   OWNERNAME   OWNERNAME   VALUE: VALUE: CAPTION:
------------------------------------	--

ID: 108 DIRECTIVE NAME: (ADFILTER) ADVANCED FILTER CANCE PARAM NAME (FILTER\_EXP) FILTER EXPRESSION INPUT #REQUIRED\_QUANTITY# >200 DB3(52) RESULT DATA INPUT 엉 DIRECTIVE PROPERTIES ACTIVITY FIG. 16C

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≥  $\times$ SUM4 78260 178828 390000 3510 0 SUM3 -43092 48750 -244800 4800 -1440 COST CENTER ANALYSIS 244800 240000 ш 43092 0 1440 ш 48750 0000 804 **CLEANING AND MAIN** ACCOMMODATION ACCOUNT DESC **ADVERTISING CAR RENTAI** BAD DEBT AIRFARE BROWSER

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FIG. 18

</DF DIRECTIVE DEFINITION>

\_1801

<DF DIRECTIVE DEFINITION DIRECTIVE ID="DB2" DIRECTIVE NAME="DATA DIRECTIVE"</p> THREADING EFFECT="SPLIT" DIRECTIVE\_DESC="SQL DATADIRECTIVE THAT SPLITS RESULTS ON GIVEN COLUMN" DIRECTIVE VENDOR="DPA" DIRECTIVE VERSION="1" DIRECTIVE CATEGORY="DPA-MISC"> <DEPLOYMENT SERVICE="DPA\_DIRECTIVE\_MGR" MACHINE="SKUNKNT4"</p> PORT="9070"/> <IN PARAMETERS> <PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="SQL" PARAM DATA TYPE="STRING" PARAM NAME="SQL"/> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="COLUMN TO SPLIT" PARAM DATA TYPE="STRING" PARAM\_NAME="SPLIT\_COLUMN"/> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="CONNECTION STRING" PARAM DATA TYPE="STRING" PARAM NAME="CONNECTION STRING"/> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="DATABASE USER NAME" PARAM DATA TYPE="STRING" PARAM NAME="USERNAME"/> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="DATABASE PASSWORD"</p> PARAM DATA TYPE="STRING" PARAM NAME="PWD"/> </IN PARAMETERS> **<OUT PARAMETERS>** <PARAMETER PARAM TYPE="OUT" PARAM CAPTION="RESULT DATA" PARAM DATA TYPE="STRING" PARAM NAME="RESULTSET"/> <PARAMETER PARAM TYPE="OUT" PARAM CAPTION="RESULT METADATA" ₽ARAM DATA TYPE="STRING" PARAM NAME="RESULTMETADATA"/> <PARAMETER PARAM TYPE="OUT" PARAM CAPTION="SPLIT VALUE" PARAM DATA TYPE="STRING" PARAM\_NAME="SPLITVALUE"/> </OUT PARAMETERS>

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# FIG. 19A

\_\_1901

- < DF DIRECTIVE DEFINITION LIST> - <DF DIRECTIVE DEFINITION DIRECTIVE ID="SB1" DIRECTIVE NAME="SCHEDULER"</p> DIRECTIVE CATEGORY="DPA-MISC" THREADING EFFECT="SPLIT" DIRECTIVE DESC="SCHEDULE DIRECTIVE" DIRECTIVE VENDOR="DPA" DIRECTIVE VERSION="1"> - <!-- CAN ADD A TYPE OR ICON NAME --> - <IN PARAMETERS> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="FREQUENCY"</p> PARAM DATA TYPE="STRING" PARAM NAME="FREQUENCY" /> </IN PARAMETERS> <</pre> OEPLOYMENT SERVICE="DPA DIRECTIVE MGR" MACHINE="SKUNKNT4" PORT="9070" /> #</DF DIRECTIVE DEFINITION> OF DIRECTIVE DEFINITION DIRECTIVE ID="DB2" DIRECTIVE NAME="DATA DIRECTIVE" THREADING EFFECT="SPLIT" DIRECTIVE\_DESC="SQL DATADIRECTIVE THAT SPLITS RESULTS ON GIVEN COLUMN" DIRECTIVE VENDOR="DPA" DIRECTIVE VERSION="1" DIRECTIVE CATEGORY="DPA-MISC"> <DEPLOYMENT SERVICE="DPA\_DIRECTIVE\_MGR" MACHINE="SKUNKNT4" PORT="9070" /</p> 13 <IN PARAMETERS> # <PARAMETER PARAM TYPE="IN" PARAM CAPTION="SQL"</pre> PARAM DATA TYPE="STRING" PARAM NAME="SQL" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="COLUMN TO SPLIT"</p> PARAM DATA TYPE="STRING" PARAM NAME="SPLIT COLUMN" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="CONNECTION STRING"</p> PARAM DATA TYPE="STRING" PARAM NAME="CONNECTION STRING" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="DATABASE USER NAME"</pre> PARAM DATA TYPE="STRING" PARAM NAME="USERNAME" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="DATABASE PASSWORD"</p> PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="PWD" /> </IN PARAMETERS>

### FIG. 19B

\_1902

```
- <OUT PARAMETERS>
<PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULT DATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSET" />
 <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULT METADATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTMETADATA" />
 <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="SPLIT VALUE"
PARAM_DATA_TYPE="STRING" PARAM_NAME="SPLITVALUE" />
 </OUT PARAMETERS>
 </DF DIRECTIVE DEFINITION>
- <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="AB1" DIRECTIVE_NAME="TOPX FILTER"
THREADING_EFFECT="STANDARD" DIRECTIVE_DESC="FILTER OUT TOP X ROWS FROM
RESULTSET" DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1"
DIRECTIVE CATEGORY="DPA-MISC">
OEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4"
PORT="9070" />
<IN PARAMETERS>
PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULT SET METADATA"
PARAM DATA_TYPE="STRING" PARAM_NAME="RESULTMETADATA" />
 <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULT SET"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSET" />
 <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="COLUMN POSITION FOR TOPX"
PARAM_DATA_TYPE="STRING" PARAM_NAME="TOPX_COLUMN" />
<OUT PARAMETERS>
PARAM DATA TYPE="STRING" PARAM NAME="RESULTSET" />
 <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="RESULT METADATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTMETADATA" />
 </OUT PARAMETERS>
 </DF DIRECTIVE DEFINITION>
- <DF_DIRECTIVE_DEFINITION DIRECTIVE_ID="AB2" DIRECTIVE_NAME="APPENDER"
DIRECTIVE_TYPE="" THREADING_EFFECT="JOIN" DIRECTIVE_DESC="REJOIN SPLIT
RESULTSETS" DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1"
DIRECTIVE CATEGORY="DPA-MISC">
 <DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /</pre>
- <IN PARAMETERS>
 <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULT SET METADATA"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTMETADATA" />
 <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="RESULT SET"
PARAM_DATA_TYPE="STRING" PARAM_NAME="RESULTSET" />
  </IN PARAMETERS>
```

# FIG. 19C

\_1903

- <OUT PARAMETERS> <PARAMETER PARAM\_TYPE="OUT" PARAM CAPTION="RESULT DATA" PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="RESULTSET" /> <PARAMETER PARAM\_TYPE="OUT" PARAM\_CAPTION="RESULT METADATA" PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="RESULTMETADATA" /> </OUT PARAMETERS> </DF DIRECTIVE DEFINITION> - <DF\_DIRECTIVE\_DEFINITION DIRECTIVE\_ID="MB1" DIRECTIVE\_NAME="EMAIL RESULTS" THREADING\_EFFECT="STANDARD" DIRECTIVE\_TYPE="" DIRECTIVE\_DESC="SIMPLE EMAIL DIRECTIVE" DIRECTIVE\_VENDOR="DPA" DIRECTIVE\_VERSION="1" DIRECTIVE CATEGORY="DPA-MISC"> <DEPLOYMENT SERVICE="DPA\_DIRECTIVE\_MGR" MACHINE="SKUNKNT4" PORT="9070" /</pre> <IN\_PARAMETERS> PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="EMAIL ADDRESS LIST" PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="MAILADR" /> #<PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="SUBJECT LINE"</pre> PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="SUBJECT" /> # <PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="MESSAGE DATA"</pre> PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="MESSAGE" /> </IN\_PARAMETERS> <OUT PARAMETERS /> </DF\_DIRECTIVE\_DEFINITION> STORED OF STORED OF STORE OF S RESULTS" THREADING\_EFFECT="STANDARD" DIRECTIVE\_TYPE="" DIRECTIVE\_DESC="REMOVE PREVIOUS RESULT SETS FROM REPOSITORY" DIRECTIVE\_VENDOR="DPA" DIRECTIVE\_VERSION="1" DIRECTIVE\_CATEGORY="DPA-MISC"> <DEPLOYMENT SERVICE="DPA\_DIRECTIVE\_MGR" MACHINE="SKUNKNT4" PORT="9070" /</pre> - <IN PARAMETERS> <PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="OWNER ID" PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="OWNERID" /> <PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="RESULTNAME" PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="RESULTNAME" /> </IN PARAMETERS> <OUT PARAMETERS /> </DF\_DIRECTIVE\_DEFINITION>

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### FIG. 19D

\_1904

- <DF\_DIRECTIVE\_DEFINITION DIRECTIVE\_ID="CRC1" DIRECTIVE\_NAME="CLEAR PUBLISHED PAGES" THREADING\_EFFECT="STANDARD" DIRECTIVE TYPE="" DIRECTIVE\_DESC="REMOVE PREVIOUS PUBLISHED PAGES FROM REPOSITORY" DIRECTIVE\_VENDOR="DPA" DIRECTIVE\_VERSION="1" DIRECTIVE\_CATEGORY="DPA-MISC"> <DEPLOYMENT SERVICE="DPA\_DIRECTIVE\_MGR" MACHINE="SKUNKNT4" PORT="9070" /</pre> - <IN PARAMETERS> <PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="OWNERID" PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="OWNERID" /> <PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="PAGE NAME" PARAM DATA TYPE="STRING" PARAM\_NAME="PAGENAME" /> </IN PARAMETERS> OUT\_PARAMETERS /> //DF\_DIRECTIVE\_DEFINITION> OF\_DIRECTIVE\_DEFINITION DIRECTIVE\_ID="SR1" DIRECTIVE\_NAME="SAVE RESULTS" THREADING\_EFFECT="STANDARD" DIRECTIVE\_TYPE="" DIRECTIVE\_DESC="SAVES RESULTS TO REPOSITORY" DIRECTIVE\_VENDOR="DPA" DIRECTIVE\_VERSION="1" DIRECTIVE CATEGORY="DPA-MISC"> <DEPLOYMENT SERVICE="DPA\_DIRECTIVE\_MGR" MACHINE="SKUNKNT4" PORT="9070" /</pre> <IN PARAMETERS> PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="RESULT SET OWNER" PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="OWNER" /> <PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="RESULT SET" PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="RESULTSET" /> <PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="RESULT SET METADATA" PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="RESULTMETADATA" /> <PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="RESULT SET NAME" PARAM DATA TYPE="STRING" PARAM NAME="RESULTNAME" /> </IN PARAMETERS> - <OUT PARAMETERS> <PARAMETER PARAM TYPE="OUT" PARAM\_CAPTION="RESULTSET ID" PARAM DATA TYPE="STRING" PARAM NAME="RESULTSETID" /> </OUT PARAMETERS> </DF DIRECTIVE\_DEFINITION>

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#### FIG. 19E

1905

- <DF\_DIRECTIVE\_DEFINITION DIRECTIVE\_ID="CR2" DIRECTIVE\_NAME="PUBLISH PAGE" THREADING\_EFFECT="STANDARD" DIRECTIVE\_TYPE="" DIRECTIVE\_DESC="PUBLISHES PAGE & GRANTS SECURITY" DIRECTIVE\_VENDOR="DPA" DIRECTIVE\_VERSION="1" DIRECTIVE CATEGORY="DPA-MISC"> <DEPLOYMENT SERVICE="DPA\_DIRECTIVE\_MGR" MACHINE="SKUNKNT4" PORT="9070" /</pre> - <IN PARAMETERS> <PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="GRANT SECURITY LIST" PARAM DATA TYPE="STRING" PARAM NAME="SECDOC" /> = <PARAMETER PARAM TYPE="IN" PARAM CAPTION="METADATA FOR SECDOC"</p> PARAM DATA TYPE="STRING" PARAM NAME="SECMETA" /> APARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="GRANT SECURITY LIST" PARAM DATA TYPE="STRING" PARAM NAME="SECCOLNAME" /> <PARAMETER PARAM TYPE="IN" PARAM\_CAPTION="PAGE OWNER"</pre> PARAM DATA TYPE="STRING" PARAM NAME="OWNER" /> PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="PAGE NAME" PARAM DATA TYPE="STRING" PARAM NAME="PAGENAME" /> = <PARAMETER PARAM TYPE="IN" PARAM CAPTION="PAGE SLICE NAME"</p> PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="PAGESLICENAME" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="PAGE DEFINITION"</p> PARAM DATA TYPE="STRING" PARAM NAME="PAGEDEFN" /> <PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="IN RESULTS KEY" "PARAM DATA TYPE="STRING" PARAM NAME="P1" /> <PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="IN RESULTS KEY" PARAM DATA TYPE="STRING" PARAM NAME="P2" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="IN RESULTS KEY" PARAM\_DATA\_TYPE="STRING" PARAM NAME="P3" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="IN RESULTS KEY" PARAM DATA TYPE="STRING" PARAM NAME="P4" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="IN RESULTS KEY" PARAM DATA TYPE="STRING" PARAM NAME="P5" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="IN RESULTS KEY" PARAM DATA TYPE="STRING" PARAM NAME="P6" /> </IN PARAMETERS>

# FIG. 19F

```
- <OUT PARAMETERS>
 <PARAMETER PARAM TYPE="OUT" PARAM CAPTION="PAGE ID"
PARAM DATA TYPE="STRING" PARAM NAME="PAGEID" />
 <PARAMETER PARAM TYPE="OUT" PARAM CAPTION="PAGE OWNER"
PARAM_DATA_TYPE="STRING" PARAM_NAME="OWNER" />
 <PARAMETER PARAM_TYPE="OUT" PARAM_CAPTION="PAGE NAME"
PARAM_DATA_TYPE="STRING" PARAM_NAME="PAGENAME" />
 <PARAMETER PARAM TYPE="OUT" PARAM CAPTION="PAGE SLICE NAME"
PARAM_DATA_TYPE="STRING" PARAM_NAME="PAGESLICENAME" />
 </OUT PARAMETERS>
 </DF DIRECTIVE DEFINITION>
COP_DIRECTIVE_DEFINITION DIRECTIVE_ID="DB3" DIRECTIVE_NAME="DATA DIRECTIVE"
THREADING_EFFECT="STANDARD" DIRECTIVE_DESC="RETRIEVE DATA AND ASSEMBLE
INTO RESULT SET" DIRECTIVE_VENDOR="DPA" DIRECTIVE_VERSION="1"
DIRECTIVE CATEGORY="DPA-MISC">
<DEPLOYMENT SERVICE="DPA_DIRECTIVE_MGR" MACHINE="SKUNKNT4" PORT="9070" /</pre>
<IN_PARAMETERS>
<PARAMETER PARAM TYPE="IN" PARAM CAPTION="SQL"</p>
PARAM_DATA_TYPE="PARAMITERIZED SQL STRING" PARAM_NAME="SQL" />

@ <PARAMETER PARAM TYPE="IN" PARAM_CAPTION="CONNECTION STRING"
</pre>
PARAM DATA TYPE="STRING" PARAM NAME="CONNECTION STRING" />
PARAMETER PARAM TYPE="IN" PARAM_CAPTION="DATABASE USER NAME"
PARAM DATA TYPE="STRING" PARAM NAME="USERNAME" />
 <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="DATABASE PASSWORD"
PARAM DATA TYPE="STRING" PARAM NAME="PWD" />
 <PARAMETER PARAM_TYPE="IN" PARAM_CAPTION="P1" PARAM_DATA_TYPE="STRING"
PARAM NAME="P1" />
 <PARAMETER PARAM TYPE="IN" PARAM CAPTION="P2" PARAM DATA TYPE="STRING"
PARAM NAME="P2" />
 <PARAMETER PARAM TYPE="IN" PARAM CAPTION="P3" PARAM_DATA_TYPE="STRING"
PARAM NAME="P3" />
 <PARAMETER PARAM TYPE="IN" PARAM CAPTION="P4" PARAM_DATA_TYPE="STRING"
PARAM NAME="P4" />
 <PARAMETER PARAM TYPE="IN" PARAM CAPTION="P5" PARAM DATA TYPE="STRING"
PARAM NAME="P5" />
 </IN PARAMETERS>
```

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### FIG. 19G

\_1907

- <OUT PARAMETERS> <PARAMETER PARAM\_TYPE="OUT" PARAM\_CAPTION="RESULT DATA" PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="RESULTSET" /> <PARAMETER PARAM\_TYPE="OUT" PARAM\_CAPTION="RESULT METADATA" PARAM DATA TYPE="STRING" PARAM\_NAME="RESULTMETADATA" /> </OUT PARAMETERS> </DF DIRECTIVE DEFINITION> - <DF\_DIRECTIVE\_DEFINITION DIRECTIVE\_ID="MB2" DIRECTIVE\_NAME="SMTP EMAIL DIRECTIVE" THREADING EFFECT="STANDARD" DIRECTIVE\_TYPE="" DIRECTIVE\_DESC="SEND PUBLISHED PAGES" DIRECTIVE\_VENDOR="DPA" DIRECTIVE\_VERSION="1" DIRECTIVE\_CATEGORY="DPA-MISC"> <DEPLOYMENT SERVICE="DPA\_DIRECTIVE\_MGR" MACHINE="SKUNKNT4" PORT="9070" /</p> | <IN\_PARAMETERS> PARAMETER PARAM TYPE="IN" PARAM CAPTION="EMAIL ADDRESSES" PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="ADDRDOC" /> ♣<PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="METADATA FOR ADDRDOC"</p> PARAM DATA TYPE="STRING" PARAM NAME="ADDRMETA" /> PARAM DATA TYPE="STRING" PARAM NAME="ADDRCOLNAME" /> PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="EMAIL COLUMN NAME" PARAM DATA TYPE="STRING" PARAM NAME="IDCOLNAME" /> <PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="SUBJECT"</pre> "PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="SUBJECT" /> ├── < PARAMETER PARAM TYPE="IN" PARAM CAPTION="PAGE OWNER"
</p> PARAM DATA TYPE="STRING" PARAM\_NAME="OWNER" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="PAGE NAME" PARAM DATA TYPE="STRING" PARAM NAME="PAGENAME" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="PAGE INSTANCE" PARAM DATA TYPE="STRING" PARAM NAME="PAGEINST" /> <PARAMETER PARAM TYPE="IN" PARAM CAPTION="MAIL FORMAT" PARAM DATA TYPE="STRING" PARAM NAME="FORMAT" /> <PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="SEND FROM MAIL ADDRESS" PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="SENDFROM" /> </IN PARAMETERS>

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# FIG. 19H

\_1908

- <OUT PARAMETERS> <PARAMETER PARAM\_TYPE="OUT" PARAM\_CAPTION="ERROR MESSAGES" PARAM DATA\_TYPE="STRING" PARAM\_NAME="ERROR\_MSG" /> </OUT PARAMETERS> </DF DIRECTIVE DEFINITION> - <DF\_DIRECTIVE\_DEFINITION DIRECTIVE\_ID="ABFILTER" DIRECTIVE\_NAME="ADVANCED FILTER" THREADING\_EFFECT="STANDARD" DIRECTIVE\_TYPE="" DIRECTIVE\_DESC="FILTER RESULTS" DIRECTIVE\_VENDOR="DPA" DIRECTIVE\_VERSION="1" DIRECTIVE\_CATEGORY="DPA-MISC"> <DEPLOYMENT SERVICE="DPA\_DIRECTIVE\_MGR" MACHINE="SKUNKNT4" PORT="9070" /</p> < IN PARAMETERS> <PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="FILTER EXPRESSION" PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="FILTER\_EXP" /> # <PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="RESULTS METADATA"</pre> PARAM DATA TYPE="STRING" PARAM\_NAME="METADOC" /> PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="RESULTS" PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="RESULTSDOC" /> </IN PARAMETERS> < <OUT PARAMETERS> PARAMETER PARAM\_TYPE="OUT" PARAM\_CAPTION="RESULTS METADATA" PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="METADOC" /> <PARAMETER PARAM\_TYPE="OUT" PARAM\_CAPTION="RESULTS"</p> PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="RESULTSDOC" /> PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="ROWCOUNT" /> </OUT PARAMETERS> </DF DIRECTIVE DEFINITION> - <DF\_DIRECTIVE\_DEFINITION DIRECTIVE\_ID="TEXTEMAILER" DIRECTIVE\_NAME="TEXT EMAILER" THREADING\_EFFECT="STANDARD" DIRECTIVE\_TYPE="" DIRECTIVE\_DESC="TEXT EMAILER" DIRECTIVE\_VENDOR="DPA" DIRECTIVE\_VERSION="1" DIRECTIVE CATEGORY="DPA-MISC"> <DEPLOYMENT SERVICE="DPA\_DIRECTIVE\_MGR" MACHINE="SKUNKNT4" PORT="9070" /</pre> Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 66 of 103

FIG. 19I

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- <IN PARAMETERS> <PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="SUBJECT EXPRESSION" PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="SUBJECT\_EXP" /> <PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="MESSAGE EXPRESSION" PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="MESSAGE\_EXP" /> <PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="EMAIL ADDRESSES" PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="EMAIL\_ADDRESSES" /> <PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="SEND FROM ADDRESS" PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="FROM\_ADDRESS" /> <PARAMETER PARAM\_TYPE="IN" PARAM\_CAPTION="RESULTS METADATA" PARAM DATA TYPE="STRING" PARAM NAME="METADOC" /> ∠PARAMETER PARAM\_TYPE="IN" PARAM CAPTION="RESULTS" PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="RESULTSDOC" /> **IN PARAMETERS> - SOUT PARAMETERS>** PARAMETER PARAM\_TYPE="OUT" PARAM\_CAPTION="ERROR MESSAGES" PARAM\_DATA\_TYPE="STRING" PARAM\_NAME="ERROR" /> !
/OUT PARAMETERS> /DF\_DIRECTIVE\_DEFINITION> Mathematical Designation List ü 

## FIG. 20A

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- <RESULTS DOC>
- <DP QUERY DEF VERSION="1">
 <DPA_IDENTIFIERS DATA_SET="NW" WH OWNER NAME="RROC" />
 <HINTS />
- < COLUMN DEFS>
 <COLUMN_DEF COLUMN_SORT_ATTRIBUTE="NONE"
COLUMN TEXT="VENDOR NAME" TABLE ALIAS="VENDOR D"
COLUMN_NAME="VENDOR NAME" COLUMN ALIAS="VENDOR NAME"
COLUMN_SORT_ORDER="1" COLUMN_POSITION="1"
COLUMN TYPE="GROUP BY" />
 <COLUMN DEF COLUMN SORT_ATTRIBUTE="NONE"
COLUMN_TEXT="PERIOD_KEY" TABLE ALIAS="AP INV DETAIL F"
COLUMN NAME="PERIOD KEY" COLUMN ALIAS="PERIOD KEY"
COLUMN_SORT_ORDER="2" COLUMN_POSITION="2"
COLUMN TYPE="GROUP BY" />
 <COLUMN_DEF COLUMN_SORT ATTRIBUTE="DESC"</pre>
COLUMN TEXT="SUM(AP INV_DETAIL F.INVOICE LINE AMOUNT)"
TABLE ALIAS="AP INV DETAIL F"
COLUMN NAME="INVOICE LINE AMOUNT"
COLUMN_ALIAS="SUM_INVOICE_LINE AMOUNT"
COLUMN SORT ORDER="3" COLUMN POSITION="3"
COLUMN_TYPE="AGGREGATE" />
 </COLUMN DEFS>
- <TABLE DEFS>
 <TABLE DEF TABLE ALIAS="AP INV DETAIL F"
TABLE NAME="AP INV DETAIL F" />
 <TABLE_DEF TABLE_ALIAS="VENDOR_D" TABLE_NAME="VENDOR_D" /
>
 </TABLE DEFS>
- <DETAIL FILTERS>
- <FILTER FILTER_TYPE="VALUE" COLUMN TEXT="VENDOR TYPE"
TABLE_ALIAS="VENDOR_D" FILTER PREC OPER="AND"
FILTER OPERATOR="=">
<FILTER_VALUE VALUE_DATA_TYPE="STRING">EMPLOYEE
FILTER VALUE>
</FILTER>
```

# **FIG. 20B**

2002

- <FILTER FILTER TYPE="VALUE" COLUMN TEXT="COMPANY KEY" TABLE\_ALIAS="AP\_INV\_DETAIL\_F" FILTER\_PREC\_OPER="AND" FILTER OPERATOR="="> <FILTER\_VALUE VALUE\_DATA\_TYPE="STRING">01</FILTER VALUE> </FILTER> </DETAIL FILTERS> - <AGGREGATE FILTERS> - <FILTER FILTER TYPE="VALUE"</p> COLUMN TEXT="SUM(INVOICE LINE\_AMOUNT)" TABLE\_ALIAS="AP\_INV\_DETAIL\_F" FILTER PREC OPER="AND" FILTER OPERATOR=">"> <FILTER\_VALUE VALUE\_DATA\_TYPE="NUMBER">0</FILTER\_VALUE> </FILTER> </AGGREGATE FILTERS> </DP QUERY DEF> <DPA\_QUERY\_SERVER\_INFO SERVICE="DPA\_QUERY\_SERVER"</pre> MACHINE="EXH 2K" PORT="8069" WAREHOUSE SERVER="HD.DPAPPLICATIONS.COM" WAREHOUSE DBNAME="DEMO30" WAREHOUSE OWNER="RROC">FOODADDY</ DPA\_QUERY\_SERVER\_INFO> - <DP DS METADATA> <DP\_COLUMN COLUMN\_NAME="VENDOR\_NAME"</pre> COLUMN\_DATA\_TYPE="VARCHAR2" COLUMN DS ALIAS="C1" COLUMN\_TYPE="GROUP\_BY" COLUMN SORT ATTRIBUTE="NONE" COLUMN SOURCE ALIAS="VENDOR NAME" COLUMN LABEL="VENDOR NAME" COLUMN DESC="" COLUMN\_IS\_CURRENCY="N" /> <DP COLUMN COLUMN NAME="PERIOD KEY"</p> COLUMN\_DATA\_TYPE="VARCHAR2" COLUMN DS ALIAS="C2" COLUMN\_TYPE="GROUP\_BY" COLUMN\_SORT ATTRIBUTE="NONE" COLUMN\_SOURCE\_ALIAS="PERIOD KEY" COLUMN LABEL="PERIOD" KEY" COLUMN\_DESC="" COLUMN IS CURRENCY="N" /> <DP\_COLUMN COLUMN\_NAME="SUM\_INVOICE\_LINE\_AMOUNT"</p> COLUMN\_DATA\_TYPE="NUMBER" COLUMN DS ALIAS="C3" COLUMN\_TYPE="AGGREGATE" COLUMN\_SORT\_ATTRIBUTE="DESC" COLUMN\_SOURCE\_ALIAS="SUM\_INVOICE\_LINE\_AMOUNT" COLUMN LABEL="INVOICE LINE AMOUNT" COLUMN DESC="" COLUMN IS CURRENCY="Y" />

</R>

### **FIG. 20C**

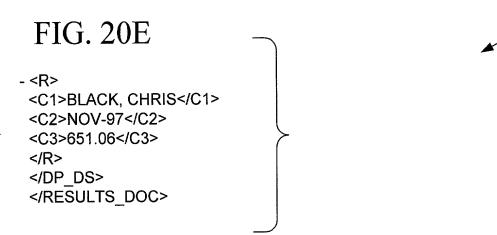
</DP\_DS METADATA> - <DP DS> - <R> <C1>JAMIE FROST</C1> <C2>DEC-97</C2> <C3>28159</C3> </R> - <R> <C1>JAMIE FROST</C1> <C2>JAN-98</C2> <C3>15114.76</C3> </R> - <R> <C1>JAMIE FROST</C1> <C2>FEB-98</C2> <C3>4417.86</C3> </R>- <R> <C1>KERRY JONES</C1> <C2>APR-98</C2> <C3>3439.10</C3> </R> - <R> <C1>KERRY JONES</C1> <C2>DEC-97</C2> <C3>3263</C3> </R> - <R> <C1>JAMIE FROST</C1> <C2>NOV-97</C2> <C3>2907.85</C3> </R> - <R> <C1>KERRY JONES</C1> <C2>FEB-98</C2> <C3>2799.31</C3>

# FIG. 20D

- <R> <C1>KERRY JONES</C1> <C2>MAY-98</C2> <C3>2698.64</C3> </R> - <R> <C1>JAMIE FROST</C1> <C2>APR-98</C2> <C3>2657.20</C3> </R> - <R> <C1>JAMIE FROST</C1> <C2>MAY-98</C2> <C3>2549.68</C3> </R> - <R> <C1>KERRY JONES</C1> <C2>MAR-98</C2> <C3>2511.98</C3> </R> - <R> <C1>JAMIE FROST</C1> <C2>MAR-98</C2> <C3>2459.87</C3> </R> - <R> <C1>JAMIE FROST</C1> <C2>JUN-98</C2> <C3>2219.90</C3> </R> - <R> <C1>KERRY JONES</C1> <C2>JUN-98</C2> <C3>2182.29</C3> </R> - <R> <C1>KERRY JONES</C1> <C2>JAN-98</C2>

<C3>1516</C3>

</R>



Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 72 of 103

#### **FIG. 21A**

2101

- <DF WORKFLOW VERSION="1"> <DF WORKFLOW HEADER DF EDITOR MAX ID="172" FLOW NAME="QTY ANALYSIS"</p> FLOW DESCRIPTION="QTY ANALYSIS FLOW" FLOW STATUS="FLOW STATUS" FLOW NOTES="" FLOW AUTHOR="FLOW AUTHOR" /> - <DF WORKFLOW PARAMETERS> - <PARAMETER NODE\_ID="13" PARAM\_ DATA TYPE="STRING" PARAM CAPTION="CONNECT STRING" PARAM NAME="CONNECT STRING" PARAM TYPE="OUT"> <PARAM SOURCE PARAM TYPE="VALUE">JDBC:ORACLE:THIN:@172.16.1.34:1521:DEMO30</ PARAM SOURCE> </PARAMETER> \_<PARAMETER NODE\_ID="14" PARAM\_DATA\_TYPE="STRING" PARAM CAPTION="DATABASE USER NAME" PARAM NAME="USER\_NAME" PARAM TYPE="OUT"> PARAM SOURCE PARAM TYPE="VALUE">RROC609</PARAM SOURCE> PARAMETER NODE\_ID="15" PARAM\_ DATA\_TYPE="STRING" PARAM CAPTION="DATABASE PASSWORD" PARAM NAME="USER\_PWD" PARAM TYPE="OUT"> <PARAM SOURCE PARAM TYPE="VALUE">DPA</PARAM SOURCE> PARAMETER NODE ID="16" PARAM DATA TYPE="STRING" PARAM CAPTION="OWNERNAME" PARAM NAME="OWNERNAME" PARAM TYPE="OUT"> PARAM SOURCE PARAM TYPE="VALUE">QTY ANALYSIS</PARAM\_SOURCE> /PARAMETER> - <PARAMETER NODE ID="17" PARAM DATA TYPE="STRING"</p> PARAM CAPTION="CURRENT PERIOD" PARAM NAME="CURRPERIOD" PARAM TYPE="OUT"> <PARAM SOURCE PARAM TYPE="VALUE">(1997-09) SEP-97</PARAM\_SOURCE> </PARAMETER> </DF WORKFLOW PARAMETERS> - <DF WORKFLOW ACTIVITIES> - <ACTIVITY NODE ID="11"> <activity\_header activity\_notes="activity notes" ACTIVITY\_DESCRIPTION="ACTIVITY DESCRIPTION" /> <activity implementation directive vendor="dpa" DIRECTIVE NAME="SCHEDULER" THREADING EFFECT="SPLIT" DIRECTIVE ID="SB1" DIRECTIVE\_VERSION="1" DIRECTIVE\_DESC="SCHEDULE DIRECTIVE" />

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## **FIG. 21B**

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- <ACTIVITY IN PARAMETERS> - <PARAMETER NODE ID="12" PARAM DATA TYPE="STRING" PARAM\_CAPTION="FREQUENCY" PARAM\_NAME="FREQUENCY" PARAM\_TYPE="IN"> <PARAM SOURCE PARAM TYPE="VALUE">0</PARAM\_SOURCE> </PARAMETER> </ACTIVITY IN PARAMETERS> <ACTIVITY OUT PARAMETERS /> </ACTIVITY> - <ACTIVITY NODE ID="18"> <activity header activity notes="activity notes" ACTIVITY\_DESCRIPTION="ACTIVITY DESCRIPTION" /> <activity\_implementation directive\_vendor="dpa" directive\_name="clear" STORED RESULTS" THREADING\_EFFECT="STANDARD" DIRECTIVE\_ID="CRB1" DIRECTIVE\_TYPE="" DIRECTIVE\_VERSION="1" DIRECTIVE\_DESC="REMOVE PREVIOUS RESULT SETS FROM REPOSITORY" /> <ACTIVITY IN PARAMETERS> SECTION = "19" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="OWNER" TO PARAM NAME="OWNERID" PARAM TYPE="IN"> PARAM SOURCE PARAM TYPE="ID">16</PARAM\_SOURCE> //PARAMETER> PARAMETER NODE\_ID="20" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="RESULTNAME" PARAM\_NAME="RESULTNAME" PARAM\_TYPE="IN"> FARAM SOURCE PARAM TYPE="VALUE">\*</PARAM\_SOURCE> </PARAMETER> @</ACTIVITY IN PARAMETERS> <ACTIVITY OUT PARAMETERS /> </ACTIVITY> - <ACTIVITY NODE ID="21"> <activity\_header activity\_notes="activity notes" ACTIVITY DESCRIPTION="ACTIVITY DESCRIPTION" /> <activity\_implementation directive\_vendor="dpa" directive\_name="clear" PUBLISHED PAGES" THREADING EFFECT="STANDARD" DIRECTIVE ID="CRC1" DIRECTIVE\_TYPE="" DIRECTIVE\_VERSION="1" DIRECTIVE\_DESC="REMOVE PREVIOUS

PUBLISHED PAGES FROM REPOSITORY" />

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FIG. 21C

- <ACTIVITY IN PARAMETERS> - <PARAMETER NODE ID="22" PARAM DATA TYPE="STRING" PARAM CAPTION="OWNERID" PARAM NAME="OWNERID" PARAM TYPE="IN"> <PARAM SOURCE PARAM TYPE="ID">16</PARAM SOURCE> </PARAMETER> - <PARAMETER NODE ID="23" PARAM DATA TYPE="STRING" PARAM CAPTION="PAGE NAME" PARAM NAME="PAGENAME" PARAM TYPE="IN"> <PARAM\_SOURCE PARAM TYPE="VALUE">\*</PARAM SOURCE> </PARAMETER> </ACTIVITY IN PARAMETERS> <ACTIVITY OUT PARAMETERS /> </ACTIVITY> - <ACTIVITY NODE ID="26"> <activity\_header activity\_notes="activity notes" ACTIVITY DESCRIPTION="DETAIL QUERY" /> ACTIVITY IMPLEMENTATION DIRECTIVE VENDOR="DPA" DIRECTIVE NAME="DATA" DIRECTIVE" THREADING EFFECT="STANDARD" DIRECTIVE\_ID="DB3" DIRECTIVE VERSION="1" DIRECTIVE DESC="RETRIEVE DATA AND ASSEMBLE INTO RESULT SET" /> **\*** ACTIVITY IN PARAMETERS> #<PARAMETER NODE\_ID="27" PARAM\_DATA\_TYPE="PARAMITERIZED SQL STRING" PARAM CAPTION="SQL" PARAM NAME="SQL" PARAM TYPE="IN"> SPARAM SOURCE PARAM TYPE="VALUE">SELECT NW COMPONENT ITEM D.COMPONENT\_ITEM\_DESC COMPONENT ITEM DESC,SUM(NW DISC SHORTAGE\_F.QUANTITY\_ISSUED) QUANTITY ISSUED, SUM (NW DISC SHORTAGE F.QUANTITY ON HAND) QUANTITY ON HAND, SUM (NW DISC SHORTAGE F.QUANTITY SHORT) QUANTITY SHORT, SUM(NW DISC SHORTAGE F.REQUIRED\_QUANTITY) REQUIRED QUANTITY FROM NW COMPONENT ITEM D 0 NW COMPONENT ITEM D, NW DISC\_SHORTAGE\_F\_0 NW DISC SHORTAGE F,NW\_ORG PERIOD D 0 NW ORG PERIOD D,NW WIP ENTITY D 0 NW WIP\_ENTITY D WHERE NW DISC SHORTAGE F.COMPONENT ITEM KEY = NW COMPONENT ITEM D.COMPONENT ITEM KEY AND NW DISC SHORTAGE F.ORG PERIOD KEY = NW ORG PERIOD D.ORG PERIOD KEY AND NW DISC\_SHORTAGE\_F.WIP\_ENTITY\_KEY = NW\_WIP\_ENTITY D.WIP\_ENTITY\_KEY AND NW ORG PERIOD D.ORG PERIOD = '#P1#' GROUP BY NW COMPONENT ITEM D.COMPONENT ITEM DESC HAVING SUM(NW DISC SHORTAGE F.REQUIRED QUANTITY) > 0 ORDER BY REQUIRED QUANTITY DESC, COMPONENT ITEM DESC, REQUIRED QUANTITY. QUANTITY ISSUED, QUANTITY SHORT, QUANTITY ON HAND</PARAM\_SOURCE>

</PARAMETER>

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#### **FIG. 21D**

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- <PARAMETER NODE ID="28" PARAM\_ DATA\_TYPE="STRING" PARAM CAPTION="CONNECTION STRING" PARAM\_NAME="CONNECTION\_STRING" PARAM TYPE="IN"> <PARAM\_SOURCE PARAM\_TYPE="ID">13</PARAM\_SOURCE> </PARAMETER> - <PARAMETER NODE\_ID="29" PARAM\_DATA\_TYPE="STRING"</p> PARAM CAPTION="DATABASE USER NAME" PARAM\_NAME="USERNAME" PARAM TYPE="IN"> <PARAM\_SOURCE PARAM\_TYPE="ID">14</PARAM\_SOURCE> </PARAMETER> - <PARAMETER NODE ID="30" PARAM DATA\_TYPE="STRING" PARAM\_CAPTION="DATABASE PASSWORD" PARAM\_NAME="PWD" PARAM\_TYPE="IN"> <PARAM SOURCE PARAM TYPE="ID">15</PARAM\_SOURCE> </PARAMETER> G<PARAMETER NODE\_ID="31" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="P1"</pre> PARAM NAME="P1" PARAM TYPE="IN"> PARAM SOURCE PARAM TYPE="ID">17</PARAM SOURCE> //PARAMETER> Fi<PARAMETER NODE\_ID="32" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="P2" PARAM\_NAME="P2" PARAM\_TYPE="IN"> "<PARAM\_SOURCE PARAM\_TYPE="ID">13</PARAM\_SOURCE> </PARAMETER> PARAMETER NODE\_ID="33" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="P3" PARAM\_NAME="P3" PARAM TYPE="IN"> #<PARAM SOURCE PARAM TYPE="ID">13</PARAM SOURCE> </PARAMETER> - <PARAMETER NODE\_ID="34" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="P4" PARAM NAME="P4" PARAM TYPE="IN"> <PARAM\_SOURCE PARAM\_TYPE="ID">13</PARAM\_SOURCE> </PARAMETER> - <PARAMETER NODE\_ID="35" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="P5" PARAM NAME="P5" PARAM TYPE="IN"> <PARAM\_SOURCE PARAM\_TYPE="ID">13</PARAM\_SOURCE> </PARAMETER> </ACTIVITY\_IN\_PARAMETERS>

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## FIG. 21E

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- <ACTIVITY OUT PARAMETERS> - <PARAMETER NODE\_ID="36" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="RESULT DATA" PARAM NAME="RESULTSET" PARAM TYPE="OUT"> <PARAM SOURCE /> </PARAMETER> - <PARAMETER NODE\_ID="37" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="RESULT METADATA" PARAM NAME="RESULTMETADATA" PARAM TYPE="OUT"> <PARAM SOURCE /> </PARAMETER> </ACTIVITY OUT PARAMETERS> </ACTIVITY> - <ACTIVITY NODE ID="39"> <ACTIVITY HEADER ACTIVITY NOTES="ACTIVITY NOTES"</p> ACTIVITY DESCRIPTION="TREND QUERY" /> SACTIVITY IMPLEMENTATION DIRECTIVE VENDOR="DPA" DIRECTIVE NAME="DATA DIRECTIVE" THREADING EFFECT="STANDARD" DIRECTIVE ID="DB3" DRECTIVE VERSION="1" DIRECTIVE DESC="RETRIEVE DATA AND ASSEMBLE INTO RESULT SET" /> **∔** ACTIVITY IN PARAMETERS> PARAMETER NODE ID="40" PARAM DATA TYPE="PARAMITERIZED SQL STRING" PARAM CAPTION="SQL" PARAM NAME="SQL" PARAM TYPE="IN"> SPARAM SOURCE PARAM TYPE="VALUE">SELECT NW ORG PERIOD D.ORG PERIOD PERIOD\_NAME,SUM(NW\_DISC\_SHORTAGE F.QUANTITY ISSUED) QUANTITY ISSUED, SUM (NW DISC\_SHORTAGE F.QUANTITY ON HAND) QUANTITY ON HAND, SUM(NW DISC SHORTAGE F.QUANTITY SHORT) QUANTITY SHORT, SUM(NW DISC\_SHORTAGE F.REQUIRED QUANTITY) REQUIRED QUANTITY FROM NW\_DISC\_SHORTAGE\_F\_0 NW\_DISC\_SHORTAGE\_F, NW ORG PERIOD D 0 NW ORG PERIOD D WHERE NW\_DISC\_SHORTAGE\_F.ORG\_PERIOD\_KEY = NW\_ORG\_PERIOD\_D.ORG\_PERIOD\_KEY
- PARAM\_SOURCE> </PARAMETER>
- <PARAMETER NODE\_ID="41" PARAM\_DATA\_TYPE="STRING"
  PARAM\_CAPTION="CONNECTION STRING" PARAM\_NAME="CONNECTION\_STRING"
  PARAM\_TYPE="IN">

GROUP BY NW ORG\_PERIOD D.ORG\_PERIOD ORDER BY PERIOD NAME DESC</

<PARAM\_SOURCE PARAM\_TYPE="ID">13</param\_source>

## **FIG. 21F**

- <PARAMETER NODE\_ID="42" PARAM\_DATA\_TYPE="STRING"
  PARAM\_CAPTION="DATABASE USER NAME" PARAM\_NAME="USERNAME"
  PARAM\_TYPE="IN">
  - <PARAM\_SOURCE PARAM\_TYPE="ID">14</PARAM\_SOURCE>
  - </PARAMETER>
- <PARAMETER NODE\_ID="43" PARAM\_DATA\_TYPE="STRING"</p>
- PARAM\_CAPTION="DATABASE PASSWORD" PARAM\_NAME="PWD" PARAM\_TYPE="IN">
   <PARAM\_SOURCE PARAM\_TYPE="ID">15</PARAM\_SOURCE>
   </PARAM\_SOURCE>
- </PARAMETER NODE ID-"
- <PARAMETER NODE\_ID="44" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="P1" PARAM\_NAME="P1" PARAM\_TYPE="IN">
- <PARAM\_SOURCE PARAM\_TYPE="ID">17</PARAM\_SOURCE>
- /PARAMETER>
- SPARAMETER NODE\_ID="45" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="P2" PARAM NAME="P2" PARAM TYPE="IN">
- **SPARAM SOURCE PARAM TYPE="ID">13</PARAM SOURCE>**
- /PARAMETER>
- PARAMETER NODE\_ID="46" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="P3" PARAM NAME="P3" PARAM TYPE="IN">
- PARAM\_SOURCE PARAM\_TYPE="ID">13</PARAM\_SOURCE>
- ✓/PARAMETER>
- -- PARAMETER NODE\_ID="47" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="P4" PARAM\_NAME="P4" PARAM\_TYPE="IN">
- PARAM\_SOURCE PARAM\_TYPE="ID">13</PARAM\_SOURCE>
- /PARAMETER>
- -\*PARAMETER NODE\_ID="48" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="P5" PARAM NAME="P5" PARAM TYPE="IN">
  - <PARAM\_SOURCE PARAM\_TYPE="ID">13</PARAM\_SOURCE>
  - </PARAMETER>
  - </ACTIVITY IN PARAMETERS>
- <ACTIVITY OUT PARAMETERS>
- <PARAMETER NODE\_ID="49" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="RESULT DATA" PARAM\_NAME="RESULTSET" PARAM\_TYPE="OUT">
  - <PARAM SOURCE />
  - </PARAMETER>
- <PARAMETER NODE\_ID="50" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="RESULT METADATA" PARAM\_NAME="RESULTMETADATA" PARAM\_TYPE="OUT">
  - <PARAM SOURCE />
  - </PARAMETER>
  - </ACTIVITY OUT PARAMETERS>
  - </ACTIVITY>

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FIG. 21G

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- <ACTIVITY NODE ID="52"> <ACTIVITY HEADER ACTIVITY NOTES="ACTIVITY NOTES" ACTIVITY DESCRIPTION="SUMMARY QUERY" /> <activity implementation directive vendor="dpa" directive name="data" DIRECTIVE" THREADING\_EFFECT="STANDARD" DIRECTIVE\_ID="DB3" DIRECTIVE VERSION="1" DIRECTIVE\_DESC="RETRIEVE DATA AND ASSEMBLE INTO RESULT SET" /> - <ACTIVITY IN PARAMETERS> - <PARAMETER NODE ID="53" PARAM DATA TYPE="PARAMITERIZED SQL STRING" PARAM CAPTION="SQL" PARAM NAME="SQL" PARAM TYPE="IN"> <PARAM SOURCE PARAM TYPE="VALUE">SELECT NW COMPONENT ITEM D.COMPONENT ITEM DESC COMPONENT ITEM DESC, SUM(NW DISC\_SHORTAGE F.QUANTITY\_ISSUED) QUANTITY ISSUED, SUM(NW DISC SHORTAGE\_F.QUANTITY\_ON\_HAND) QUANTITY ON HAND, SUM(NW DISC SHORTAGE\_F.QUANTITY\_SHORT) QUANTITY SHORT, SUM(NW\_DISC\_SHORTAGE F.REQUIRED\_QUANTITY) REQUIRED QUANTITY FROM NW COMPONENT ITEM D 0 NW\_COMPONENT\_ITEM\_D,NW DISC\_SHORTAGE F 0 NW DISC SHORTAGE F,NW ORG PERIOD D\_0 NW ORG PERIOD D,NW WIP ENTITY D ONW WIP ENTITY DWHERE NW DISC SHORTAGE F.COMPONENT ITEM KEY = NW COMPONENT ITEM D.COMPONENT ITEM KEY AND NW DISC SHORTAGE F.ORG PERIOD KEY = NW ORG PERIOD D.ORG PERIOD KEY AND NW\_DISC\_SHORTAGE\_F.WIP\_ENTITY\_KEY = NW\_WIP\_ENTITY\_D.WIP\_ENTITY\_KEY AND NW ORG PERIOD D.ORG PERIOD = '#P1#' GROUP BY NW COMPONENT ITEM D.COMPONENT\_ITEM\_DESC HAVING SUM(NW DISC SHORTAGE F.REQUIRED QUANTITY) > 0 ORDER BY REQUIRED QUANTITY DESC, COMPONENT ITEM DESC, REQUIRED\_QUANTITY, QUANTITY ISSUED, QUANTITY SHORT, QUANTITY ON HAND</PARAM\_SOURCE> </PARAMETER> - <PARAMETER NODE ID="54" PARAM DATA TYPE="STRING" PARAM CAPTION="CONNECTION STRING" PARAM NAME="CONNECTION STRING" PARAM TYPE="IN"> <PARAM SOURCE PARAM TYPE="ID">13</PARAM\_SOURCE> </PARAMETER> - <PARAMETER NODE ID="55" PARAM DATA TYPE="STRING" PARAM\_CAPTION="DATABASE USER NAME" PARAM NAME="USERNAME" PARAM TYPE="IN"> <PARAM\_SOURCE PARAM\_TYPE="ID">14</PARAM\_SOURCE> </PARAMETER>

## FIG. 21H

2108

- <PARAMETER NODE ID="56" PARAM\_DATA\_TYPE="STRING" PARAM CAPTION="DATABASE PASSWORD" PARAM NAME="PWD" PARAM TYPE="IN"> <PARAM\_SOURCE PARAM\_TYPE="ID">15</PARAM\_SOURCE> </PARAMETER> - <PARAMETER NODE\_ID="57" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="P1" PARAM\_NAME="P1" PARAM TYPE="IN"> <PARAM SOURCE PARAM TYPE="ID">17</PARAM SOURCE> </PARAMETER> - <PARAMETER NODE ID="58" PARAM DATA TYPE="STRING" PARAM CAPTION="P2" PARAM NAME="P2" PARAM TYPE="IN"> <PARAM SOURCE PARAM TYPE="ID">13</PARAM SOURCE> </PARAMETER> - <PARAMETER NODE ID="59" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="P3"</p> PARAM NAME="P3" PARAM TYPE="IN"> EPARAM\_SOURCE PARAM\_TYPE="ID">13</PARAM\_SOURCE> /PARAMETER> PARAMETER NODE\_ID="60" PARAM DATA\_TYPE="STRING" PARAM CAPTION="P4" PARAM NAME="P4" PARAM TYPE="IN"> #<PARAM\_SOURCE PARAM\_TYPE="ID">13</PARAM\_SOURCE> </PARAMETER> =<PARAMETER NODE ID="61" PARAM DATA TYPE="STRING" PARAM CAPTION="P5"</p> PARAM NAME="P5" PARAM TYPE="IN"> PARAM\_SOURCE PARAM\_TYPE="ID">13</PARAM\_SOURCE> /PARAMETER> //ACTIVITY\_IN\_PARAMETERS> **ACTIVITY OUT PARAMETERS>** - <PARAMETER NODE\_ID="62" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="RESULT DATA" PARAM NAME="RESULTSET" PARAM TYPE="OUT"> <PARAM SOURCE /> </PARAMETER> - <PARAMETER NODE ID="63" PARAM DATA TYPE="STRING" PARAM CAPTION="RESULT METADATA" PARAM NAME="RESULTMETADATA" PARAM TYPE="OUT"> <PARAM SOURCE /> </PARAMETER> </ACTIVITY\_OUT\_PARAMETERS> </ACTIVITY>

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FIG. 21I

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- <ACTIVITY NODE ID="65"> <ACTIVITY\_HEADER ACTIVITY\_NOTES="ACTIVITY NOTES"</pre> ACTIVITY DESCRIPTION="ACTIVITY DESCRIPTION" /> <ACTIVITY\_IMPLEMENTATION DIRECTIVE\_VENDOR="DPA"</p> THREADING\_EFFECT="STANDARD" DIRECTIVE\_NAME="SAVE RESULTS" DIRECTIVE\_ID="SR1" DIRECTIVE\_TYPE="" DIRECTIVE\_VERSION="1" DIRECTIVE\_DESC="SAVES RESULTS TO REPOSITORY" /> - <ACTIVITY IN PARAMETERS> - <PARAMETER NODE\_ID="66" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="RESULT SET OWNER" PARAM\_NAME="OWNER" PARAM\_TYPE="IN"> <PARAM\_SOURCE PARAM\_TYPE="ID">16</PARAM\_SOURCE> </PARAMETER> - <PARAMETER NODE\_ID="67" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="RESULT</p> SET" PARAM\_NAME="RESULTSET" PARAM\_TYPE="IN"> PARAM\_SOURCE PARAM\_TYPE="ID">36</PARAM\_SOURCE> /PARAMETER> PARAMETER NODE\_ID="68" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="RESULT SET METADATA" PARAM\_NAME="RESULTMETADATA" PARAM\_TYPE="IN"> PARAM\_SOURCE PARAM\_TYPE="ID">37</PARAM\_SOURCE> \*/PARAMETER> PARAMETER NODE\_ID="69" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="RESULT SET NAME" PARAM\_NAME="RESULTNAME" PARAM\_TYPE="IN"> PARAM\_SOURCE PARAM\_TYPE="VALUE">DETAIL</PARAM\_SOURCE> /PARAMETER> ACTIVITY IN PARAMETERS> -XACTIVITY OUT PARAMETERS> PARAM\_CAPTION="RESULTSET ID" PARAM\_NAME="RESULTSETID" PARAM\_TYPE="OUT"> <PARAM SOURCE /> </PARAMETER> </ACTIVITY\_OUT\_PARAMETERS> </ACTIVITY> - <ACTIVITY NODE ID="72"> <ACTIVITY\_HEADER ACTIVITY NOTES="ACTIVITY NOTES"</pre> ACTIVITY DESCRIPTION="ACTIVITY DESCRIPTION" /> <activity\_implementation directive\_vendor="dpa" THREADING\_EFFECT="STANDARD" DIRECTIVE NAME="SAVE RESULTS" DIRECTIVE\_ID="SR1" DIRECTIVE\_TYPE="" DIRECTIVE VERSION="1"

DIRECTIVE\_DESC="SAVES RESULTS TO REPOSITORY" />

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**FIG. 21J** 

- <ACTIVITY\_IN\_PARAMETERS>
- <PARAMETER NODE\_ID="73" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="RESULT SET OWNER" PARAM NAME="OWNER" PARAM TYPE="IN">
- <PARAM\_SOURCE PARAM\_TYPE="ID">16</PARAM\_SOURCE>
- </PARAMETER>
- <PARAMETER NODE\_ID="74" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="RESULT SET" PARAM NAME="RESULTSET" PARAM TYPE="IN">
- <PARAM\_SOURCE PARAM\_TYPE="ID">49</PARAM\_SOURCE>
- </PARAMETER>
- <PARAMETER NODE\_ID="75" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="RESULT SET METADATA" PARAM NAME="RESULTMETADATA" PARAM TYPE="IN">
- <PARAM\_SOURCE PARAM\_TYPE="ID">50</PARAM\_SOURCE>
- /PARAMETER>
- PARAMETER NODE\_ID="76" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="RESULT SET NAME" PARAM NAME="RESULTNAME" PARAM TYPE="IN">
- \*PARAM\_SOURCE PARAM\_TYPE="VALUE">TREND</PARAM\_SOURCE>
- </PARAMETER>
- </ACTIVITY IN PARAMETERS>
- ACTIVITY OUT\_PARAMETERS>
- PARAMETER NODE\_ID="77" PARAM\_DATA\_TYPE="STRING"
- PARAM\_CAPTION="RESULTSET ID" PARAM\_NAME="RESULTSETID" PARAM\_TYPE="OUT">
  FARAM SOURCE />
- **\*/PARAMETER>**
- **INVIOLEMENTAL PARAMETERS**
- ACTIVITY>
- <ACTIVITY HEADER ACTIVITY NOTES="ACTIVITY NOTES"</p>
- ACTIVITY DESCRIPTION="ACTIVITY DESCRIPTION" />
  - <ACTIVITY\_IMPLEMENTATION DIRECTIVE VENDOR="DPA"</p>
- THREADING EFFECT="STANDARD" DIRECTIVE NAME="SAVE RESULTS"
- DIRECTIVE\_ID="SR1" DIRECTIVE TYPE="" DIRECTIVE VERSION="1"
- DIRECTIVE DESC="SAVES RESULTS TO REPOSITORY" />
- <ACTIVITY IN PARAMETERS>
- <PARAMETER NODE\_ID="80" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="RESULT SET OWNER" PARAM NAME="OWNER" PARAM TYPE="IN">
  - <PARAM\_SOURCE PARAM\_TYPE="ID">16</PARAM\_SOURCE>
  - </PARAMETER>

## FIG. 21K

</PARAMETER>

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- <PARAMETER NODE\_ID="81" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="RESULT SET" PARAM\_NAME="RESULTSET" PARAM\_TYPE="IN"> <PARAM\_SOURCE PARAM\_TYPE="ID">62</PARAM\_SOURCE> </PARAMETER> - <PARAMETER NODE\_ID="82" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="RESULT SET METADATA" PARAM\_NAME="RESULTMETADATA" PARAM\_TYPE="IN"> <PARAM\_SOURCE PARAM\_TYPE="ID">63</PARAM\_SOURCE> </PARAMETER> - <PARAMETER NODE\_ID="83" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="RESULT SET NAME" PARAM\_NAME="RESULTNAME" PARAM\_TYPE="IN"> <PARAM\_SOURCE PARAM\_TYPE="VALUE">SUMMARY</PARAM\_SOURCE> /PARAMETER> /ACTIVITY IN PARAMETERS> ACTIVITY OUT PARAMETERS> PARAMETER NODE\_ID="84" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="RESULTSET ID" PARAM\_NAME="RESULTSETID" PARAM\_TYPE="OUT"> PARAM SOURCE /> </PARAMETER> </ACTIVITY\_OUT\_PARAMETERS> r/ACTIVITY> **\*\***ACTIVITY NODE ID="87"> **\*ACTIVITY HEADER ACTIVITY NOTES="ACTIVITY NOTES"** ACTIVITY DESCRIPTION="ACTIVITY DESCRIPTION" /> ACTIVITY\_IMPLEMENTATION DIRECTIVE\_VENDOR="DPA" THREADING\_EFFECT="STANDARD" DIRECTIVE\_NAME="PUBLISH PAGE" DIRECTIVE\_ID="CR2" DIRECTIVE\_TYPE="" DIRECTIVE\_VERSION="1" DIRECTIVE DESC="PUBLISHES PAGE & GRANTS SECURITY" /> - <ACTIVITY\_IN\_PARAMETERS> - <PARAMETER NODE\_ID="88" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="GRANT SECURITY LIST" PARAM\_NAME="SECDOC" PARAM TYPE="IN"> <PARAM\_SOURCE PARAM\_TYPE="ID">162</PARAM\_SOURCE> </PARAMETER> - <PARAMETER NODE\_ID="89" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="METADATA FOR SECDOC" PARAM\_NAME="SECMETA" PARAM TYPE="IN"> <PARAM\_SOURCE PARAM\_TYPE="ID">163</PARAM\_SOURCE> </PARAMETER> - <PARAMETER NODE\_ID="90" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="GRANT

SECURITY LIST" PARAM\_NAME="SECCOLNAME" PARAM\_TYPE="IN">

<PARAM\_SOURCE PARAM\_TYPE="VALUE">USERNAME</PARAM\_SOURCE>

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#### **FIG. 21L**

- <PARAMETER NODE\_ID="91" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="PAGE OWNER" PARAM\_NAME="OWNER" PARAM\_TYPE="IN">
- <PARAM\_SOURCE PARAM\_TYPE="ID">16
- <PARAMETER NODE\_ID="92" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="PAGE NAME" PARAM\_NAME="PAGENAME" PARAM\_TYPE="IN">
- <PARAM\_SOURCE PARAM\_TYPE="VALUE">STARTPAGE
- <PARAMETER NODE\_ID="93" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="PAGE SLICE NAME" PARAM\_NAME="PAGESLICENAME" PARAM\_TYPE="IN"> <PARAM\_SOURCE PARAM\_TYPE="VALUE">FIRST</PARAM\_SOURCE> </PARAMETER>
- <PARAMETER NODE\_ID="94" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="PAGE DEFINITION" PARAM NAME="PAGEDEFN" PARAM TYPE="IN"> PARAM SOURCE PARAM TYPE="VALUE"><DP PAGE DEF><LAYER #AYER\_TYPE="HORIZONTAL" LAYER BORDER="0" LAYER PADDING="3" LAYER\_HEIGHT="100%" LAYER\_WIDTH="100%"><LAYER LAYER\_TYPE="VERTICAL" AYER\_PADDING="3" LAYER\_BORDER="0" LAYER\_HEIGHT="225" LAYER\_WIDTH="100%"><LAYER LAYER\_TYPE="WIDGET" LAYER\_HEIGHT="100%" AYER\_WIDTH="50%"><WIDGET WIDGET\_ID="DP\_PIE\_CHART"><PARAMETERS><PARAM PARAM\_NAME="TITLE">MY PIE</PARAM><PARAM PARAM NAME="DSID">#P3#</ PARAM><PARAM PARAM NAME="VALUECOL">REQUIRED QUANTITY</PARAM><PARAM PARAM\_NAME="LABELCOL">COMPONENT\_ITEM DESC</PARAM><PARAM PARAM\_NAME="FILTERTYPE">TOP</PARAM><PARAM PARAM\_NAME="FILTERVAL">10</ PARAM></PARAMETERS></WIDGET></LAYER><LAYER LAYER\_TYPE="WIDGET" AYER HEIGHT="100%" LAYER WIDTH="50%"><WIDGET WIDGET\_ID="DP\_BAR\_CHART2"><PARAMETERS><PARAM PARAM\_NAME="TITLE">MY CHART TITLE</PARAM><PARAM PARAM\_NAME="DSID">#P2#</PARAM><PARAM PARAM NAME="MEASURECOLS">QUANTITY\_ON\_HAND|QUANTITY\_ISSUED|QUANTITY\_SH ORT|REQUIRED\_QUANTITY</PARAM><PARAM PARAM\_NAME="XAXISLABELS">ON HANDIISSUED|SHORT|REQUIRED</PARAM><PARAM PARAM\_NAME="SERIESCOL">PERIOD\_NAME</PARAM></PARAMETERS></WIDGET></ LAYER></LAYER><LAYER LAYER\_TYPE="HORIZONTAL" LAYER BORDER="0" LAYER\_PADDING="3" LAYER\_HEIGHT="80%" LAYER\_WIDTH="100%"><LAYER LAYER\_TYPE="WIDGET" LAYER\_HEIGHT="100%" LAYER\_WIDTH="100%"><WIDGET WIDGET\_ID="DP\_REPORT\_VIEWER"><PARAMETERS><PARAM PARAM NAME="TITLE">MY TITLE</PARAM> <PARAM PARAM\_NAME="DSID">#P1#</PARAM></PARAMETERS></ WIDGET></LAYER></LAYER></DP\_PAGE\_DEF></PARAM\_SOURCE> </PARAMETER>
- <PARAMETER NODE\_ID="95" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="IN RESULTS KEY" PARAM\_NAME="P1" PARAM\_TYPE="IN"> <PARAM\_SOURCE PARAM\_TYPE="ID">70</PARAM\_SOURCE> </PARAMETER>

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#### **FIG. 21M**

- <PARAMETER NODE\_ID="96" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="IN RESULTS KEY" PARAM\_NAME="P2" PARAM\_TYPE="IN">
  - <PARAM\_SOURCE PARAM\_TYPE="ID">77</PARAM\_SOURCE>
  - </PARAMETER>
- <PARAMETER NODE\_ID="97" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="IN RESULTS KEY" PARAM\_NAME="P3" PARAM\_TYPE="IN">
  - <PARAM\_SOURCE PARAM\_TYPE="ID">84</PARAM\_SOURCE>
  - </PARAMETER>
- <PARAMETER NODE\_ID="98" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="IN RESULTS KEY" PARAM\_NAME="P4" PARAM\_TYPE="IN">
- <PARAM\_SOURCE PARAM\_TYPE="ID">70</PARAM\_SOURCE>
- </PARAMETER>
- <PARAMETER NODE\_ID="99" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="IN RESULTS KEY" PARAM\_NAME="P5" PARAM\_TYPE="IN">
- PARAM\_SOURCE PARAM\_TYPE="ID">70</PARAM\_SOURCE>
- </PARAMETER>
- PARAMETER NODE\_ID="100" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="IN RESULTS KEY" PARAM NAME="P6" PARAM TYPE="IN">
- PARAM\_SOURCE PARAM\_TYPE="ID">70</PARAM\_SOURCE>
- K/PARAMETER>
- ACTIVITY\_IN\_PARAMETERS>
- **E-<ACTIVITY OUT PARAMETERS>**
- PARAMETER NODE\_ID="101" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="PAGE"
  PARAM\_NAME="PAGEID" PARAM\_TYPE="OUT">
- FPARAM SOURCE />
- /PARAMETER>
- PARAMETER NODE\_ID="102" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="PAGE OWNER" PARAM\_NAME="OWNER" PARAM\_TYPE="OUT">
- <PARAM\_SOURCE />
- </PARAMETER>
- <PARAMETER NODE\_ID="103" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="PAGE NAME" PARAM\_NAME="PAGENAME" PARAM\_TYPE="OUT">
  - <PARAM SOURCE />
  - </PARAMETER>
- <PARAMETER NODE\_ID="104" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="PAGE SLICE NAME" PARAM\_NAME="PAGESLICENAME" PARAM\_TYPE="OUT">
  - <PARAM SOURCE />
- </PARAMETER>
- </ACTIVITY\_OUT\_PARAMETERS>
- </ACTIVITY>

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# FIG. 21N

```
- <ACTIVITY NODE ID="108">
 <ACTIVITY HEADER ACTIVITY NOTES="ACTIVITY NOTES"</p>
ACTIVITY_DESCRIPTION="OUTOF BOUNDS QTY" />
 <ACTIVITY IMPLEMENTATION DIRECTIVE VENDOR="DPA"</p>
THREADING EFFECT="STANDARD" DIRECTIVE NAME="ADVANCED FILTER"
DIRECTIVE_ID="ABFILTER" DIRECTIVE TYPE="" DIRECTIVE VERSION="1"
DIRECTIVE DESC="FILTER RESULTS" />
- <ACTIVITY IN PARAMETERS>
- <PARAMETER NODE_ID="109" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="FILTER
EXPRESSION" PARAM NAME="FILTER EXP" PARAM TYPE="IN">
 <PARAM_SOURCE PARAM_TYPE="VALUE">#REQUIRED_QUANTITY# > 200</
PARAM SOURCE>
 </PARAMETER>
PARAMETER NODE ID="110" PARAM DATA TYPE="STRING"
PARAM_CAPTION="RESULTS METADATA" PARAM_NAME="METADOC" PARAM_TYPE="IN">
PARAM_SOURCE PARAM_TYPE="ID">63</PARAM_SOURCE>
</PARAMETER>
PARAMETER NODE ID="111" PARAM DATA TYPE="STRING"
PARAM_CAPTION="RESULTS" PARAM_NAME="RESULTSDOC" PARAM_TYPE="IN">
FPARAM_SOURCE PARAM_TYPE="ID">62</PARAM_SOURCE>
</PARAMETER>

∴ /ACTIVITY IN PARAMETERS>

ACTIVITY OUT PARAMETERS>
PARAMETER NODE ID="112" PARAM DATA TYPE="STRING"
PARAM_CAPTION="RESULTS METADATA" PARAM NAME="METADOC"
PARAM TYPE="OUT">
 <PARAM SOURCE />
 </PARAMETER>
- <PARAMETER NODE_ID="113" PARAM DATA TYPE="STRING"</p>
PARAM_CAPTION="RESULTS" PARAM_NAME="RESULTSDOC" PARAM_TYPE="OUT">
 <PARAM SOURCE />
 </PARAMETER>
- <PARAMETER NODE_ID="114" PARAM_DATA_TYPE="STRING" PARAM_CAPTION="ROW
COUNT" PARAM NAME="ROWCOUNT" PARAM TYPE="OUT">
 <PARAM SOURCE />
 </PARAMETER>
 </ACTIVITY OUT PARAMETERS>
 </ACTIVITY>
```

## FIG. 210

2115

- <ACTIVITY NODE ID="116"> <ACTIVITY HEADER ACTIVITY NOTES="ACTIVITY NOTES"</p> ACTIVITY DESCRIPTION="ACTIVITY DESCRIPTION" /> <ACTIVITY IMPLEMENTATION DIRECTIVE VENDOR="DPA"</p> THREADING EFFECT="STANDARD" DIRECTIVE NAME="TEXT EMAILER" DIRECTIVE ID="TEXTEMAILER" DIRECTIVE TYPE="" DIRECTIVE VERSION="1" DIRECTIVE\_DESC="TEXT EMAILER" /> - <ACTIVITY IN PARAMETERS> - <PARAMETER NODE ID="117" PARAM DATA TYPE="STRING" PARAM CAPTION="SUBJECT EXPRESSION" PARAM NAME="SUBJECT EXP" PARAM TYPE="IN"> <PARAM\_SOURCE PARAM\_TYPE="VALUE">OUT OF BOUNDS QTY CONDITION PARAM SOURCE> ្តី</PARAMETER> PARAMETER NODE\_ID="118" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="MESSAGE EXPRESSION" PARAM\_NAME="MESSAGE EXP" PARAM TYPE="IN"> → PARAM SOURCE PARAM\_TYPE="VALUE">COMPONENT: #COMPONENT ITEM DESC# REQUIRES #REQUIRED\_QUANTITY# ADDITIONAL UNITS</PARAM SOURCE> <sup></sup> </PARAMETER> PARAMETER NODE\_ID="119" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="EMAIL ADDRESSES" PARAM NAME="EMAIL ADDRESSES" PARAM TYPE="IN"> FARAM\_SOURCE PARAM TYPE="VALUE">EXH@DPAPPLICATIONS.COM</ PARAM SOURCE> PARAMETER NODE\_ID="120" PARAM DATA TYPE="STRING" PARAM CAPTION="SEND" FROM ADDRESS" PARAM\_NAME="FROM ADDRESS" PARAM\_TYPE="IN"> <PARAM SOURCE PARAM TYPE="VALUE">DF@DPAPPLICATIONS.COM</ PARAM\_SOURCE> </PARAMETER> - <PARAMETER NODE\_ID="121" PARAM\_DATA\_TYPE="STRING"</li> PARAM\_CAPTION="RESULTS METADATA" PARAM\_NAME="METADOC" PARAM\_TYPE="IN"> <PARAM\_SOURCE PARAM\_TYPE="ID">112</PARAM\_SOURCE> </PARAMETER> - <PARAMETER NODE ID="122" PARAM DATA TYPE="STRING" PARAM CAPTION="RESULTS" PARAM NAME="RESULTSDOC" PARAM TYPE="IN"> <PARAM\_SOURCE PARAM\_TYPE="ID">113</PARAM\_SOURCE> </PARAMETER> </ACTIVITY IN PARAMETERS>

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**FIG. 21P** 

</PARAMETER>

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- <ACTIVITY OUT PARAMETERS> - <PARAMETER NODE ID="123" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="ERROR</p> MESSAGES" PARAM NAME="ERROR" PARAM TYPE="OUT"> <PARAM SOURCE /> </PARAMETER> </ACTIVITY OUT PARAMETERS> </ACTIVITY> - <ACTIVITY NODE ID="125"> <ACTIVITY HEADER ACTIVITY NOTES="ACTIVITY NOTES"</p> ACTIVITY DESCRIPTION="EMAIL LINK" /> <ACTIVITY IMPLEMENTATION DIRECTIVE VENDOR="DPA"</p> THREADING EFFECT="STANDARD" DIRECTIVE NAME="SMTP EMAIL DIRECTIVE" DIRECTIVE ID="MB2" DIRECTIVE TYPE="" DIRECTIVE VERSION="1" DIRECTIVE DESC="SEND PUBLISHED PAGES" /> < PARAMETER NODE\_ID="126" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="EMAIL ADDRESSES" PARAM NAME="ADDRDOC" PARAM TYPE="IN"> PARAM\_SOURCE PARAM\_TYPE="ID">162</PARAM\_SOURCE> /PARAMETER> PARAMETER NODE ID="127" PARAM DATA TYPE="STRING" PARAM\_CAPTION="METADATA FOR ADDRDOC" PARAM NAME="ADDRMETA" PARAM TYPE="IN"> PARAM\_SOURCE PARAM\_TYPE="ID">163</PARAM\_SOURCE> </PARAMETER> PARAMETER NODE\_ID="128" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="EMAIL" COLUMN NAME" PARAM\_NAME="ADDRCOLNAME" PARAM\_TYPE="IN"> <PARAM\_SOURCE PARAM TYPE="VALUE">EMAIL ADDRESS </PARAMETER> - <PARAMETER NODE ID="129" PARAM DATA TYPE="STRING" PARAM CAPTION="EMAIL COLUMN NAME" PARAM NAME="IDCOLNAME" PARAM TYPE="IN"> <PARAM\_SOURCE PARAM\_TYPE="VALUE">USERNAME</PARAM\_SOURCE> </PARAMETER> - <PARAMETER NODE ID="130" PARAM DATA TYPE="STRING" PARAM CAPTION="SUBJECT" PARAM NAME="SUBJECT" PARAM TYPE="IN">

<PARAM\_SOURCE PARAM\_TYPE="VALUE">QTY ANALYSIS UPDATED</PARAM\_SOURCE>

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# FIG. 21Q

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- <PARAMETER NODE\_ID="131" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="PAGE OWNER" PARAM\_NAME="OWNER" PARAM\_TYPE="IN"> <PARAM\_SOURCE PARAM\_TYPE="ID">102</PARAM\_SOURCE>
  - </PARAMETER>
- <PARAMETER NODE\_ID="132" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="PAGE NAME" PARAM NAME="PAGENAME" PARAM TYPE="IN">
- <PARAM\_SOURCE PARAM\_TYPE="ID">103</PARAM\_SOURCE>
- </PARAMETER>
- <PARAMETER NODE\_ID="133" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="PAGE INSTANCE" PARAM NAME="PAGEINST" PARAM TYPE="IN">
- <PARAM\_SOURCE PARAM\_TYPE="ID">104</PARAM\_SOURCE>
- </PARAMETER>
- PARAMETER NODE\_ID="134" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="MAIL CORMAT" PARAM NAME="FORMAT" PARAM TYPE="IN">
- PARAM SOURCE PARAM TYPE="VALUE">DYNAM</PARAM SOURCE>
- </PARAMETER>
- PARAMETER NODE\_ID="135" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="SEND FROM MAIL ADDRESS" PARAM NAME="SENDFROM" PARAM TYPE="IN">
- PARAM\_SOURCE PARAM\_TYPE="VALUE">DF@DPAPPLICATIONS.COM</

PARAM SOURCE>

- </PARAMETER>
- /ACTIVITY IN PARAMETERS>
- ACTIVITY OUT PARAMETERS>
- PARAMETER NODE\_ID="136" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="ERROR MESSAGES" PARAM\_NAME="ERROR\_MSG" PARAM\_TYPE="OUT">
- <PARAM SOURCE />
- </PARAMETER>
- </ACTIVITY OUT PARAMETERS>
- </ACTIVITY>
- <ACTIVITY NODE ID="152">
- <ACTIVITY HEADER ACTIVITY NOTES="ACTIVITY NOTES"</p>

ACTIVITY DESCRIPTION="ACTIVITY DESCRIPTION" />

<ACTIVITY IMPLEMENTATION DIRECTIVE VENDOR="DPA"</p>

THREADING\_EFFECT="STANDARD" DIRECTIVE\_NAME="DATA DIRECTIVE"
DIRECTIVE\_ID="DB3" DIRECTIVE\_VERSION="1" DIRECTIVE\_DESC="RETRIEVE DATA AND ASSEMBLE INTO RESULT SET" />

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#### FIG. 21R

- <ACTIVITY IN PARAMETERS>
- <PARAMETER NODE\_ID="153" PARAM\_DATA\_TYPE="PARAMITERIZED SQL STRING" PARAM CAPTION="SQL" PARAM NAME="SQL" PARAM TYPE="IN">
- <PARAM\_SOURCE PARAM\_TYPE="VALUE">SELECT USERNAME,EMAIL\_ADDRESS FROM
  OA3.DF QTYAPP USERS
  - </PARAMETER>
- <PARAMETER NODE ID="154" PARAM DATA TYPE="STRING"
- PARAM\_CAPTION="CONNECTION STRING" PARAM\_NAME="CONNECTION\_STRING" PARAM TYPE="IN">
  - <PARAM SOURCE
- PARAM\_TYPE="VALUE">JDBC:ORACLE:THIN:@HD.DPAPPLICATIONS.COM:1521:NRB816</P>
  - </PARAMETER>
- <PARAMETER NODE ID="155" PARAM DATA TYPE="STRING"
- PARAM\_CAPTION="DATABASE USER NAME" PARAM\_NAME="USERNAME"
  PARAM TYPE="IN">
- PARAM\_SOURCE PARAM\_TYPE="VALUE">OA3</PARAM\_SOURCE>
- </PARAMETER>
- PARAMETER NODE ID="156" PARAM DATA TYPE="STRING"
- PARAM\_CAPTION="DATABASE PASSWORD" PARAM\_NAME="PWD" PARAM\_TYPE="IN">
- PARAM\_SOURCE PARAM\_TYPE="VALUE">OA3</PARAM\_SOURCE>
- > </PARAMETER>
- PARAMETER NODE\_ID="157" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="P1" PARAM NAME="P1" PARAM TYPE="IN">
- PARAM\_SOURCE PARAM\_TYPE="ID">13</PARAM\_SOURCE>
- </PARAMETER>
- PARAMETER NODE\_ID="158" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="P2" PARAM NAME="P2" PARAM TYPE="IN">
- <PARAM\_SOURCE PARAM\_TYPE="ID">13</PARAM\_SOURCE>
- </PARAMETER>
- <PARAMETER NODE\_ID="159" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="P3" PARAM\_NAME="P3" PARAM\_TYPE="IN">
- <PARAM\_SOURCE PARAM\_TYPE="ID">13</PARAM\_SOURCE>
- </PARAMETER>
- <PARAMETER NODE\_ID="160" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="P4" PARAM NAME="P4" PARAM TYPE="IN">
- <PARAM\_SOURCE PARAM\_TYPE="ID">13</PARAM\_SOURCE>
- </PARAMETER>
- <PARAMETER NODE\_ID="161" PARAM\_DATA\_TYPE="STRING" PARAM\_CAPTION="P5" PARAM NAME="P5" PARAM TYPE="IN">
- <PARAM\_SOURCE PARAM\_TYPE="ID">13</PARAM\_SOURCE>
- </PARAMETER>
- </ACTIVITY\_IN\_PARAMETERS>

**FIG. 21S** 

```
- <ACTIVITY OUT PARAMETERS>
- <PARAMETER NODE ID="162" PARAM DATA TYPE="STRING"
PARAM CAPTION="RESULT DATA" PARAM NAME="RESULTSET" PARAM TYPE="OUT">
 <PARAM SOURCE />
 </PARAMETER>
- <PARAMETER NODE ID="163" PARAM DATA TYPE="STRING"
PARAM CAPTION="RESULT METADATA" PARAM NAME="RESULTMETADATA"
PARAM TYPE="OUT">
 <PARAM SOURCE />
 </PARAMETER>
 </ACTIVITY OUT PARAMETERS>
 </ACTIVITY>
C
C
C
C
D
F
WORKFLOW
ACTIVITIES
C
<DF WORKFLOW TRANSITIONS>
TRANSITION NODE ID="24" FROM ACTIVITY ID="11" TO ACTIVITY ID="18"
TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
!<TRANSITION NODE ID="25" FROM ACTIVITY ID="11" TO ACTIVITY ID="21"</p>
TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
<TRANSITION NODE ID="71" FROM ACTIVITY ID="26" TO ACTIVITY ID="65"</p>
TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
CTRANSITION NODE ID="78" FROM ACTIVITY ID="39" TO ACTIVITY ID="72"
#RANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
<TRANSITION NODE ID="85" FROM ACTIVITY ID="52" TO ACTIVITY ID="79"</p>
#RANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
TRANSITION NODE ID="105" FROM ACTIVITY ID="65" TO ACTIVITY ID="87"
TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE ID="106" FROM ACTIVITY ID="72" TO ACTIVITY ID="87"
TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE_ID="107" FROM_ACTIVITY_ID="79" TO_ACTIVITY_ID="87"
TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE ID="115" FROM ACTIVITY ID="52" TO ACTIVITY ID="108"
TRANSITION_EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" />
 <TRANSITION NODE ID="124" FROM ACTIVITY ID="108" TO ACTIVITY ID="116"
TRANSITION EXPRESSION="#114# > "0"" DESCRIPTION="EMAIL ONLY EXCEPTIONS"
NOTES="NOTES" />
```

FIG. 21T

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<TRANSITION NODE ID="137" FROM ACTIVITY ID="87" TO ACTIVITY ID="125" TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" /> <TRANSITION NODE ID="164" FROM ACTIVITY ID="18" TO ACTIVITY ID="152" TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" /> <TRANSITION NODE ID="165" FROM ACTIVITY ID="21" TO ACTIVITY ID="152" TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" /> <TRANSITION NODE ID="166" FROM ACTIVITY ID="152" TO ACTIVITY ID="26" TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" /> <TRANSITION NODE ID="167" FROM ACTIVITY ID="152" TO ACTIVITY ID="39" TRANSITION\_EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" /> <TRANSITION NODE ID="168" FROM ACTIVITY ID="152" TO ACTIVITY ID="52" TRANSITION EXPRESSION="" DESCRIPTION="DESCRIPTION" NOTES="NOTES" /> </DF WORKFLOW TRANSITIONS> <DF WORKFLOW EDITOR> ACTIVITY\_VISUAL\_EDITING NODE ID="11" YCOORD="140" XCOORD="12" /> ACTIVITY VISUAL EDITING NODE ID="18" YCOORD="330" XCOORD="47" /> ACTIVITY VISUAL EDITING NODE ID="21" YCOORD="50" XCOORD="60" /> SACTIVITY VISUAL EDITING NODE ID="26" YCOORD="200" XCOORD="294" /> \* <ACTIVITY VISUAL EDITING NODE ID="39" YCOORD="70" XCOORD="294" /> <ACTIVITY VISUAL EDITING NODE ID="52" YCOORD="320" XCOORD="304" /> <ACTIVITY VISUAL EDITING NODE ID="65" YCOORD="200" XCOORD="408" /> ACTIVITY VISUAL EDITING NODE ID="72" YCOORD="70" XCOORD="408" /> ACTIVITY VISUAL EDITING NODE ID="79" YCOORD="320" XCOORD="428" /> ACTIVITY VISUAL EDITING NODE ID="87" YCOORD="200" XCOORD="537" /> <ACTIVITY VISUAL EDITING NODE ID="108" YCOORD="430" XCOORD="359" /> <ACTIVITY VISUAL EDITING NODE ID="116" YCOORD="420" XCOORD="587" /> <ACTIVITY VISUAL EDITING NODE ID="125" YCOORD="320" XCOORD="580" /> <ACTIVITY VISUAL EDITING NODE ID="152" YCOORD="200" XCOORD="160" /> </DF WORKFLOW EDITOR> </DF WORKFLOW>

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FIG. 22A

```
<DP QUERY DEF VERSION="1">
  <DPA IDENTIFIERS DATA SET="OAS" WH OWNER_NAME="PART"/>
   <HINTS/>
   <COLUMN DEFS>
    <COLUMN_DEF SUMMARY_TYPE="SUM" COLUMN_NAME="PTD_BUDGET"</pre>
COLUMN ALIAS="PTD BUDGET" COLUMN SORT ORDER="3"
COLUMN SORT ATTRIBUTE="NONE" COLUMN TYPE="MEASURE" COLUMN EXPR=""
COLUMN POSITION="3" TABLE_ALIAS="INCOME_STMT_A" COLUMN_TAG="PTD_BUDGET"/
    <COLUMN DEF SUMMARY TYPE="NONE" COLUMN NAME="LINE NAME"</p>
COLUMN ALIAS="LINE NAME" COLUMN SORT ORDER="1"
COLUMN SORT ATTRIBUTE="ASC" COLUMN_TYPE="ATTRIBUTE" COLUMN EXPR=""
COLUMN POSITION="1" TABLE ALIAS="INC STMT LINES D" COLUMN TAG="LINE NAME"/
    <COLUMN DEF SUMMARY TYPE="SUM" COLUMN NAME="PTD VARIANCE PCT"</p>
COLUMN ALIAS="PTD VARIANCE PCT" COLUMN SORT ORDER="6"
COLUMN SORT ATTRIBUTE="NONE" COLUMN TYPE="MEASURE" COLUMN EXPR=""
COLUMN POSITION="6" TABLE ALIAS="INCOME STMT A"
COLUMN TAG="PTD VAR PCT"/>
    <COLUMN DEF SUMMARY TYPE="NONE" COLUMN_NAME="DEPARTMENT_DESC"</p>
COLUMN ALIAS="DEPT DESC" COLUMN SORT ORDER="2"
COLUMN SORT ATTRIBUTE="ASC" COLUMN TYPE="ATTRIBUTE" COLUMN EXPR=""
COLUMN POSITION="2" TABLE ALIAS="DEPARTMENT D" COLUMN TAG="DEPT_DESC"/>
    <COLUMN DEF SUMMARY TYPE="SUM" COLUMN NAME="PTD VARIANCE"</p>
COLUMN ALIAS="PTD VARIANCE" COLUMN SORT ORDER="5"
COLUMN SORT ATTRIBUTE="NONE" COLUMN TYPE="MEASURE" COLUMN EXPR=""
COLUMN POSITION="5" TABLE ALIAS="INCOME STMT A" COLUMN TAG="PTD VAR"/>
    <COLUMN DEF SUMMARY TYPE="SUM" COLUMN NAME="PTD ACTUAL"</p>
COLUMN ALIAS="PTD ACTUAL" COLUMN SORT ORDER="4"
COLUMN SORT ATTRIBUTE="NONE" COLUMN TYPE="MEASURE" COLUMN EXPR=""
COLUMN POSITION="4" TABLE ALIAS="INCOME_STMT_A" COLUMN TAG="PTD_ACTUAL"/
>
   </COLUMN DEFS>
```

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#### **FIG. 22B**

\_2202

```
<TABLE DEFS>
    <TABLE DEF TABLE ALIAS="VENDOR D" TABLE NAME="VENDOR D"/>
    <TABLE DEF TABLE ALIAS="AP INV DETAIL F" TABLE NAME="AP INV DETAIL F"/>
    <TABLE_DEF TABLE_ALIAS="INCOME_STMT_A" TABLE_NAME="INCOME_STMT_A"/>
    <TABLE DEF TABLE ALIAS="DEPARTMENT D" TABLE NAME="DEPARTMENT D"/>
    <TABLE DEF TABLE ALIAS="INC_STMT_LINES_D"
TABLE NAME="INC_STMT_LINES_D"/>
   </TABLE DEFS>
   <DETAIL FILTERS>
    <FILTER FILTER TYPE="VALUE" COLUMN TEXT="PERIOD KEY"</pre>
TABLE ALIAS="AP INV DETAIL F" FILTER PREC OPER="AND" FILTER OPERATOR="=">
      <FILTER VALUE VALUE DATA TYPE="STRING">DEC-97</FILTER VALUE>
    </FILTER>
    <FILTER FILTER TYPE="VALUE" COLUMN TEXT="VENDOR TYPE"</pre>
TABLE ALIAS="VENDOR D" FILTER PREC OPER="AND" FILTER_OPERATOR="=">
      <FILTER VALUE VALUE DATA TYPE="STRING">EMPLOYEE</FILTER_VALUE>
## I
    </FILTER>
    <FILTER FILTER TYPE="VALUE" COLUMN TEXT="COMPANY KEY"
TABLE ALIAS="AP INV_DETAIL_F" FILTER PREC OPER="AND" FILTER OPERATOR="=">
      <FILTER VALUE VALUE DATA TYPE="STRING">01</FILTER VALUE>
107
    </FILTER>
    <FILTER FILTER TYPE="VALUE" COLUMN TEXT="DEPARTMENT KEY"
TABLE ALIAS="AP INV DETAIL_F" FILTER_PREC_OPER="AND" FILTER_OPERATOR="=">
      <FILTER VALUE VALUE DATA TYPE="STRING">560</FILTER VALUE>
</FILTER>
   </DETAIL FILTERS>
   <AGGREGATE FILTERS>
    <FILTER FILTER TYPE="VALUE" COLUMN TEXT="SUM(INVOICE LINE AMOUNT)"</pre>
TABLE ALIAS="AP INV DETAIL F" FILTER PREC OPER="AND"
FILTER OPERATOR=">">
      <FILTER_VALUE VALUE_DATA_TYPE="NUMBER">0</FILTER_VALUE>
    </FILTER>
   </AGGREGATE FILTERS>
 </DP QUERY DEF>
```

**FIG. 23A** 

\_2301

```
- <DP SCHEMA DOC VERSION="1">
 <DPA QUERY SERVER INFO SERVICE="DPA_QUERY_SERVER" MACHINE="EXH_2K"</p>
PORT="8069" WAREHOUSE SERVER="HD.DPAPPLICATIONS.COM"
WAREHOUSE DBNAME="DEMO30" WAREHOUSE OWNER="RROC"
SCHEMA="AP INV DETAIL_F" DATA_SET="NW">FOODADDY</
DPA QUERY SERVER INFO>
- <DP DIMENSIONS>
- <DIMENSION LABEL="ACCOUNTING DATE" NAME="ACCOUNTING DATE D">
 <a tribute label="accounting date key" name="accounting date key" />
 <a href="ACCOUNTING MONTH" NAME="ACCOUNTING MONTH" />
 <a tribute label="accounting period" name="accounting period" />
 <a tribute label="accounting period key"
NAME="ACCOUNTING PERIOD KEY" />
 <ATTRIBUTE LABEL="ACCOUNTING PERIOD QUARTER"</p>
NAME="ACCOUNTING PERIOD QUARTER" />
源<ATTRIBUTE LABEL="ACCOUNTING QUARTER" NAME="ACCOUNTING QUARTER" />
SECOUNTING WEEK ENDING"
NAME="ACCOUNTING WEEK ENDING" />
ATTRIBUTE LABEL="ACCOUNTING YEAR" NAME="ACCOUNTING YEAR" />
</DIMENSION>
*ATTRIBUTE LABEL="ACCOUNT" NAME="ACCOUNT" />
<ATTRIBUTE LABEL="LINE NAME" NAME="LINE NAME" />
<ATTRIBUTE LABEL="LINE SEQUENCE KEY" NAME="LINE SEQUENCE KEY" />
SATTRIBUTE LABEL="REPORT SECTION" NAME="REPORT SECTION" />
ATTRIBUTE LABEL="REPORT SEQUENCE" NAME="REPORT SEQUENCE" />
<ATTRIBUTE LABEL="ACCOUNT KEY" NAME="ACCOUNT KEY" />
 <ATTRIBUTE LABEL="ACCOUNT DESCRIPTION" NAME="ACCOUNT DESC" />
 </DIMENSION>
- <DIMENSION LABEL="ACCOUNT ROLLUPS" NAME="ACCOUNT RLUP D">
 <ATTRIBUTE LABEL="ACCOUNT" NAME="ACCOUNT" />
 <a tribute label="account key" name="account key" />
 <ATTRIBUTE LABEL="ACCOUNT ROLLUP DESCRIPTION" NAME="ROLLUP DESC" />
 <a tribute label="account rollup code" name="rollup code" />
 <a tribute label="account description" name="account desc" />
 </DIMENSION>
- <DIMENSION LABEL="AP HOLD CODES" NAME="AP HOLD CODE D">
 <a tribute label="AP Hold Code" Name="AP_Hold_Code" />
 <a href="AP"><a href="AP"> HOLD CODE DESCRIPTION"</a> NAME="AP HOLD CODE DESC"</a>
 <a tribute label="Ap hold code key" name="ap hold code key" />
 <a tribute label="AP HOLD CODE TYPE" NAME="AP HOLD CODE TYPE" />
 </DIMENSION>
```

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**FIG. 23B** 

```
- <DIMENSION LABEL="AP HOLD STATUS" NAME="AP HOLD_STATUS D">
 <a href="AP HOLD STATUS" NAME="AP HOLD STATUS" />
 <ATTRIBUTE LABEL="AP HOLD STATUS KEY" NAME="AP HOLD STATUS KEY" />
 </DIMENSION>
- <DIMENSION LABEL="AP INVOICES" NAME="AP INVOICE D">
 <a tribute label="AP INVOICE NUMBER" NAME="AP INVOICE" />
 <a tribute label="ap invoice date" name="ap invoice date" />
 <a tribute label="ap invoice key" name="ap_invoice_key" />
 </DIMENSION>
- <DIMENSION LABEL="AP INVOICE TYPES" NAME="AP INVOICE TYPE D">
 <a href="AP"><a href="AP">ATTRIBUTE LABEL="AP INVOICE TYPE" />
 <attribute label="ap invoice type key" name="ap invoice type key" />
 </DIMENSION>
---<DIMENSION LABEL="AP PAYMENT TERMS" NAME="AP PAYMENT_TERM D">
ATTRIBUTE LABEL="AP PAYMENT TERM DESCRIPTION"
NAME="AP PAYMENT TERM DESC" />
INCOME NAME - "AP PAYMENT TERM KEY" NAME="AP_PAYMENT_TERM_KEY" />
!!</DIMENSION>
!!<DIMENSION LABEL="PO AUTHORIZER" NAME="AUTHORIZER_D">
ATTRIBUTE LABEL="AUTHORIZER" NAME="AUTHORIZER" />
SATTRIBUTE LABEL="AUTHORIZER KEY" NAME="AUTHORIZER_KEY" />

</p
COMENSION LABEL="BUYERS" NAME="BUYER D">
4 < ATTRIBUTE LABEL="BUYER" NAME="BUYER" />
ATTRIBUTE LABEL="AUTHORIZATION LIMIT" NAME="BUYER_AUTHORIZATION_LIMIT"
 <a href="ATTRIBUTE LABEL="END DATE ACTIVE" NAME="BUYER END DATE ACTIVE" />
 <a tribute label="buyer key" name="buyer key" />
 <a href="ATTRIBUTE LABEL="START DATE ACTIVE" NAME="BUYER_START DATE ACTIVE" />
 </DIMENSION>
- <DIMENSION LABEL="COMPANY" NAME="COMPANY D">
 <a tribute label="company" name="company" />
 <a tribute label="company description" name="company desc" />
 <a tribute label="company key" name="company key" />
 </DIMENSION>
- <DIMENSION LABEL="CURRENCY" NAME="CURRENCY D">
 <attribute label="currency" name="currency" />
 <a tribute label="currency description" name="currency desc" />
 <a tribute label="currency key" name="currency key" />
 </DIMENSION>
```

FIG. 23C

```
- <DIMENSION LABEL="DEPARTMENT" NAME="DEPARTMENT D">
  <a tribute label="department" name="department" />
  <a tribute label="department key" name="department key" />
  <ATTRIBUTE LABEL="DEPARTMENT DESCRIPTION" NAME="DEPARTMENT DESC" />
  </DIMENSION>
- <DIMENSION LABEL="DEPARTMENT ROLLUPS" NAME="DEPARTMENT_RLUP_D">
  <attribute label="department" name="department" />
  <ATTRIBUTE LABEL="DEPARTMENT ROLLUP DESC" NAME="ROLLUP DESC" />
  <a href="https://www.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.nchi.nlm.
  <a href="https://www.newliber.com/">ATTRIBUTE LABEL="DEPARTMENT DESC" />
  <a tribute label="department key" name="department key" />
  </DIMENSION>
- <DIMENSION LABEL="AP DUE DATES" NAME="DUE DATE D">
<ATTRIBUTE LABEL="DUE DATE KEY" NAME="DUE DATE KEY" />
<ATTRIBUTE LABEL="DUE MONTH" NAME="DUE MONTH" />
<ATTRIBUTE LABEL="DUE PERIOD" NAME="DUE PERIOD" />
*ATTRIBUTE LABEL="DUE PERIOD KEY" NAME="DUE PERIOD KEY" />
<ATTRIBUTE LABEL="DUE PERIOD QUARTER" NAME="DUE_PERIOD_QUARTER" />
<ATTRIBUTE LABEL="DUE QUARTER" NAME="DUE QUARTER" />
<ATTRIBUTE LABEL="DUE WEEK ENDING" NAME="DUE_WEEK_ENDING" />
ATTRIBUTE LABEL="DUE YEAR" NAME="DUE_YEAR" />
</DIMENSION>
E<DIMENSION LABEL="INVOICE DATES" NAME="INVOICE DATE D">
SATTRIBUTE LABEL="INVOICE DATE KEY" NAME="INVOICE DATE KEY" />
<ATTRIBUTE LABEL="INVOICE PERIOD" NAME="INVOICE PERIOD" />
ATTRIBUTE LABEL="INVOICE PERIOD KEY" NAME="INVOICE PERIOD KEY" />
  <a tribute label="INVOICE PERIOD QUARTER"
NAME="INVOICE PERIOD QUARTER" />
  <attribute label="invoice quarter" name="invoice quarter" />
  <a href="INVOICE WEEK ENDING" NAME="INVOICE WEEK ENDING" />
  <a tribute label="invoice year" name="invoice year" />
  </DIMENSION>
- <DIMENSION LABEL="JE BATCHS" NAME="JE BATCH D">
  <ATTRIBUTE LABEL="ACTUAL FLAG" NAME="ACTUAL FLAG" />
  <a tribute label="default period name" name="default period name" />
  <attribute label="je batch key" name="je batch key" />
  <ATTRIBUTE LABEL="NAME" NAME="NAME" />
  <attribute label="org id" name="org id" />
  <a tribute label="description" name="description" />
  <attribute label="date created" name="date_created" />
  </DIMENSION>
```

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FIG. 23D

```
- <DIMENSION LABEL="ORGANIZATIONS" NAME="ORGANIZATION D">
  <a href="calcalage: color: blue;"><a href="calcalage: color: blue;">>> <a href="calcalage: blue;">
  <a tribute label="organization key" name="organization key" />
  <ATTRIBUTE LABEL="ORGANIZATION TYPE" NAME="ORGANIZATION_TYPE" />
   </DIMENSION>
 - <DIMENSION LABEL="PA PROJECTS" NAME="PA_PROJECT_D">
  <attribute label="project key" name="pa_project_key" />
   <a tribute label="Project complete date"
 NAME="PROJECT COMPLETE DATE" />
   <attribute label="project manager" name="project_manager" />
   <ATTRIBUTE LABEL="PROJECT NAME" NAME="PROJECT NAME" />
   <ATTRIBUTE LABEL="PROJECT NUMBER" NAME="PROJECT NUMBER" />
   <ATTRIBUTE LABEL="PROJECT OFFICER" NAME="PROJECT OFFICER" />
ATTRIBUTE LABEL="PROJECT SPONSOR" NAME="PROJECT_SPONSOR" />
<ATTRIBUTE LABEL="PROJECT START DATE" NAME="PROJECT_START_DATE" />
   <ATTRIBUTE LABEL="PROJECT STATUS" NAME="PROJECT_STATUS" />
<ATTRIBUTE LABEL="PROJECT TITLE" NAME="PROJECT TITLE" />
<ATTRIBUTE LABEL="PROJECT TYPE" NAME="PROJECT_TYPE" />
/DIMENSION>
漢<DIMENSION LABEL="PA TASKS" NAME="PA_ TASK_D">
<ATTRIBUTE LABEL="PARENT TASK KEY" NAME="PARENT TASK_KEY" />
ATTRIBUTE LABEL="TASK LOCATION" NAME="TASK LOCATION" />
<ATTRIBUTE LABEL="TASK NAME" NAME="TASK_NAME" />
    <ATTRIBUTE LABEL="TASK MANAGER" NAME="TASK MANAGER" />
<ATTRIBUTE LABEL="TOP TASK NAME" NAME="TOP_TASK_NAME" />
<ATTRIBUTE LABEL="TOP TASK KEY" NAME="TOP_TASK KEY" />
    <ATTRIBUTE LABEL="TASK WBS" NAME="TASK_WBS" />
    <ATTRIBUTE LABEL="TASK START DATE" NAME="TASK START DATE" />
    <ATTRIBUTE LABEL="TASK NUMBER" NAME="TASK NUMBER" />
    <ATTRIBUTE LABEL="TASK DESCRIPTION" NAME="TASK_DESC" />
    <ATTRIBUTE LABEL="PARENT TASK NAME" NAME="PARENT_TASK_NAME" />
    <a tribute label="project key" name="pa project key" />
    <ATTRIBUTE LABEL="TASK COMPLETE DATE" NAME="TASK_COMPLETE_DATE" />
    <attribute label="task key" name="pa_task_key" />
    </DIMENSION>
```

FIG. 23E

```
- <DIMENSION LABEL="PERIODS" NAME="PERIOD D">
 <attribute label="Period" name="Period" />
<ATTRIBUTE LABEL="PERIOD END DATE" NAME="PERIOD END DATE" />
 <a tribute label="period key" name="period key" />
 <attribute label="period start date" name="period_start_date" />
 <a href="PERIOD TYPE" NAME="PERIOD TYPE" />
 <a tribute label="Quarter" name="Quarter" />
 <attribute label="Year" name="Year" />
 </DIMENSION>
- <DIMENSION LABEL="PRODUCT" NAME="PRODUCT D">
 <ATTRIBUTE LABEL="PRODUCT" NAME="PRODUCT" />
 <ATTRIBUTE LABEL="PRODUCT DESCRIPTION" NAME="PRODUCT DESC" />
 <attribute label="product key" name="product key" />
/DIMENSION>
<DIMENSION LABEL="PA PROJECT CLASSES" NAME="PROJECT CLASS D">
<ATTRIBUTE LABEL="PROJECT CLASS CATEGORY"</p>
NAME="PROJECT_CLASS_CATEGORY" />
<ATTRIBUTE LABEL="PROJECT CLASS CODE" NAME="PROJECT_CLASS_CODE" />
ATTRIBUTE LABEL="PROJECT CLASS DESCRIPTION"
NAME="PROJECT CLASS DESCRIPTION" />
<ATTRIBUTE LABEL="PROJECT KEY" NAME="PROJECT_KEY" />
</DIMENSION>
<DIMENSION LABEL="PO REQUESTORS" NAME="REQUESTOR_D">
<ATTRIBUTE LABEL="REQUESTOR" NAME="REQUESTOR" />
<ATTRIBUTE LABEL="REQUESTOR KEY" NAME="REQUESTOR_KEY" />
- <DIMENSION LABEL="SUB-ACCOUNT" NAME="SUB ACCOUNT D">
 <a tribute label="Sub-Account" name="Sub-Account" />
 <a tribute label="sub-account key" name="sub-account key" />
 <a tribute label="Sub-account description" name="Sub-account desc" />
 </DIMENSION>
- <DIMENSION LABEL="AP VENDORS" NAME="VENDOR D">
 <attribute label="active end date" name="active end date" />
 <attribute label="active flag" name="active flag" />
 <attribute label="active start date" name="active start date" />
 <a tribute label="vendor site address line1" name="address line1" />
 <a tribute label="vendor site address line2" name="address line2" />
 <attribute label="vendor site address line3" name="address line3" />
 <a tribute label="vendor site area code" name="area code" />
 <a tribute label="vendor site city" name="city" />
 <a tribute label="vendor hold reason" name="hold reason" />
 <a tribute label="vendor site phone number" name="phone number" />
```

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FIG. 23F

```
<attribute label="vendor site province" name="province" />
  <ATTRIBUTE LABEL="VENDOR SITE STATE" NAME="STATE" />
  <attribute label="vendor tax federal flag"
NAME="TAX FEDERAL REPORT FLAG" />
  <a tribute label="Vendor Tax reporting name"
NAME="TAX REPORTING NAME" />
  <a href="Canadag"><a href="ATTRIBUTE LABEL="VENDOR TAX STATE FLAG" NAME="TAX STATE REPORT FLAG"</a>
  <attribute label="Vendor 1099 Number" Name="Vendor_1099_NUM" />
  <a tribute label="Vendor corporate group"
 NAME="VENDOR CORPORATE GROUP" />
  <a tribute label="Vendor industry class"
*NAME="VENDOR INDUSTRY CLASS" />
<ATTRIBUTE LABEL="VENDOR NAME" NAME="VENDOR NAME" />
W<ATTRIBUTE LABEL="VENDOR NUMBER" NAME="VENDOR NUMBER" />
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  <ATTRIBUTE LABEL="VENDOR PAY GROUP" NAME="VENDOR PAY GROUP" />
artribute Label="vendor site code" name="vendor_site code" />
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= <ATTRIBUTE LABEL="VENDOR TYPE" NAME="VENDOR TYPE" />
<ATTRIBUTE LABEL="VENDOR SITE ZIP" NAME="ZIP" />
/DIMENSION>
CDIMENSION LABEL="AP INVOICE DETAILS" NAME="AP INV DETAIL F">
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   <a tribute label="company key" name="company key" />
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   <a tribute label="department key" name="department key" />
   <a tribute label="due date" name="due date" />
   <a tribute label="due date key" name="due date key" />
   <a tribute label="total invoice amount" name="invoice_amount" />
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Gregory L. Maurer, Esq., Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, Oregon 97204, (503) 226-7391, Inventors: Scheurich et al., Title: SYSTEMS AND METHODS FOR GENERATING INFORMATION FROM A DATA COLLECTION TO SUPPORT DECISION-MAKING, Express Mail No.: EL754021232US, Attorney Docket No.: 6115-58351, Page 100 of 103

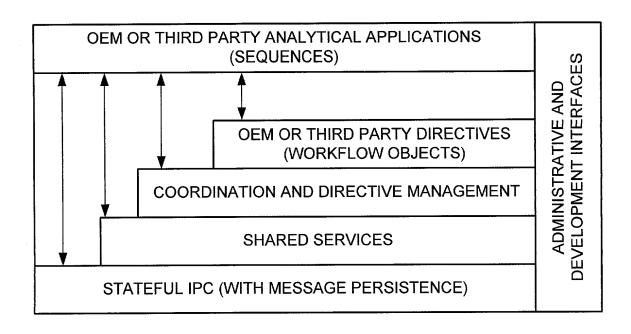
## **FIG. 23G**

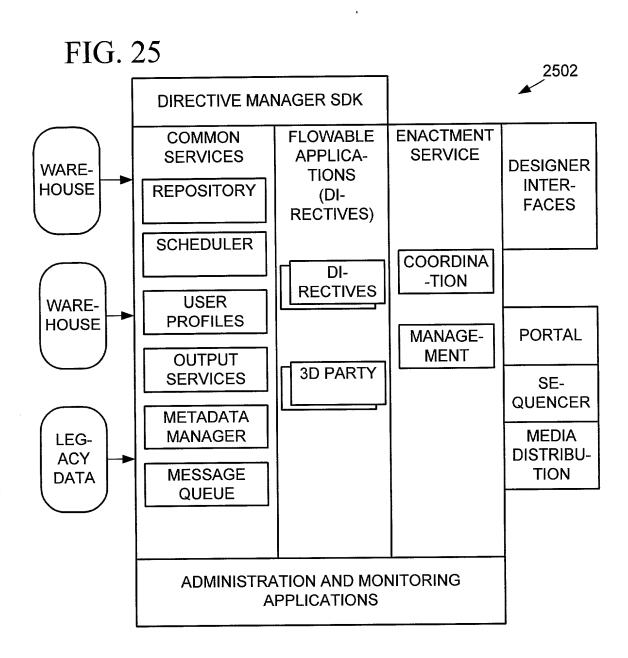
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  <a href="INVOICE DESCRIPTION" NAME="INVOICE DESC" />
  <a href="INVOICE ID KEY" NAME="INVOICE ID KEY" />
  <a href="INVOICE LINE DESCRIPTION" NAME="INVOICE_LINE_DESC" />
  <a href="Invoice line number" name="Invoice_line_number" />
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  <ATTRIBUTE LABEL="INVOICE NUMBER" NAME="INVOICE NUMBER" />
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  <ATTRIBUTE LABEL="PA PROJECT KEY" NAME="PA PROJECT KEY" />
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ATTRIBUTE LABEL="POSTED FLAG" NAME="POSTED FLAG" />
<ATTRIBUTE LABEL="PO CREATION DATE" NAME="PO_CREATED_DATE" />
SECONDITION OF THE PROOF OF TH
<ATTRIBUTE LABEL="PRODUCT KEY" NAME="PRODUCT KEY" />
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= <ATTRIBUTE LABEL="VENDOR KEY" NAME="VENDOR KEY" />
</DIMENSION>
/DP DIMENSIONS>
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   <MEASURE LABEL="INVOICE LINE PRICE VARIANCE"</p>
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   <MEASURE LABEL="TRANSLATED CURRENCY AMOUNT"</p>
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   </DP SCHEMA DOC>
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FIG. 24





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FIG. 26

